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ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND  
RELATED MATTERS.

*Rowe: in Ch*

Hearing held in Court Room 20  
Court House  
361 University Avenue  
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence  
for

July 20th, 1983

VOLUME 14

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Avenue, Toronto, Ontario, on  
Wednesday, the 20th day of July,  
1983.

- - - -

THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner  
THOMAS MILLAR - Administrator  
MURRAY R. ELLIOT - Registrar

- - - -

APPEARANCES:

P.S.A. LAMEK, Q.C.	Commission Counsel
T.C. MARSHALL, Q.C.)	Counsel for the Attorney-
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	General of Ontario (Crown
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I.G. SCOTT, Q.C.)	Counsel for The Hospital
K.J. ROLAND )	for Sick Children
R. BATTY )	
M. THOMSON )	
D. YOUNG	Counsel for The Metropolitan
	Toronto Police
W.N. ORTVED)	Counsel for numerous Doctors
C. CARD )	at The Hospital for Sick
	Children
E. McINTYRE	Counsel for the Registered
	Nurses' Association of Ontario
	and 35 Registered Nurses at
	The Hospital for Sick Children





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APPEARANCES: (Continued)

H. SOLOMON	Counsel for the Ontario Association for Registered Nursing Assistants
W.A. BOGART	Counsel for Susan Nelles - Nurse
G.R. STRATHY) P. RAE )	Counsel for Phyllis Trayner - R.N.A.
B. JACKMAN	Counsel for Mrs. M. Christie - R.N.A.
J.A. OLAH	Counsel for Janet Brownless - R.N.A.
S. LABOW	Counsel for Mr. & Mrs. Gosselin, Mr. & Mrs. Gionas, Mr. & Mrs. Inwood, Mr. & Mrs. Turner, Mr. & Mrs. Lutes and Mr. & Mrs. Murphy (parents of deceased children)
F.J. SHANAHAN	Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo); and Heather Dawson (mother of deceased child Amber Dawson)
W.W. TOBIAS	Counsel for Mr. & Mrs. Hines, (parents of deceased child Jordan Hines)

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DP.jc

A

1  
2 --- On commencing at 10:00 a.m.

3 THE COMMISSIONER: Yes, Mr. Lamek?

4 MR. LAMEK: Mr. Commissioner, before  
5 I ask Dr. Rowe to go back into the witness box there  
6 is something that I would like to address, if I may,  
7 from last night, when there was a discussion about  
8 the number and identity of the babies about whose  
9 deaths I propose to lead evidence. I am afraid I  
10 was not as clear as I should have been last night.

11 The Order-in-Council, sir, refers to  
12 deaths in Cardiac Wards 4A and 4B between July 1,  
13 1980 and March 31, 1981, so we know from Dr. Gilmour-  
14 Bryson's evidence that there were 34 such deaths.

15 It is also common knowledge,  
16 sir, that the police identified 46 deaths that they  
17 considered initially to merit investigation and they  
18 subsequently reduced that number to 28, which they  
19 regarded as suspicious. The police, sir, were not  
20 directed or restricted to deaths in a particular time  
21 period or to deaths in a particular location, and in  
22 the result the police list of 46 deaths includes 10  
23 about which I do not propose to adduce evidence.  
24 They are the deaths of children who, having been on  
25 Wards 4A and 4B, subsequently died in the Operating  
Room or in the Intensive Care Unit either after  
surgery or cardiac catheterization.







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The children included in the police 46 about whom my present intention is to adduce no evidence are these, sir, and if you would care to make a note in the Statement of Prima Facie Facts.

THE COMMISSIONER: All right.

MR. LAMEK: The names are listed at Paragraph 71, page 43.

All of those on the first page; I will come back to the first one in a moment.

On page 44, No. 13, Elizabeth Karklins, died September 10, 1980, having gone from the ward to the Operating Room. She died in the OR. I do not propose to adduce evidence about her.

No. 14, David Jenkinson, who died on September 15, had gone from the Cardiac Ward to the Operating Room to the ICU, where he died.

Nancy Falcao, No. 15, died September 17 in the Operating Room having gone there from the ward.

No. 16, Edward Arorash, who died on September 24, 1980, had gone from the ward to the Operating Room, where he died.

No. 22, Sean Pennie, who died November 25th, 1980, had gone from the ward to the OR and eventually died in the ICU.





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No. 23, Timothy Goulden, died November 28, 1980, had gone from the ward to the Operating Room where he died.

On the next page, No. 34, Arif Huda, who died February 19, 1981, in the Operating Room, having gone from there to the ward.

No. 35, Michael Fanjoy, died February 25, 1981, again having gone from the ward to the Operating Room, where he died.

No. 44, on page 46, Artemis Voineskos, who died March 19, 1981, having gone from the ward to the Operating Room to the Intensive Care Unit, where he died.

Those are the 10, sir, about whom my present intention is not to lead evidence.

THE COMMISSIONER: I have only nine so far. Was there one on page 1?

MR. LAMEK: Oh, Foster, did I miss out Foster, forgive me.

Yes, Janice Foster, No. 25, again went from the ward to the Operating Room to the ICU where she died, December 11, 1980.

THE COMMISSIONER: All right, that is 10.

MR. LAMEK: If it should appear, sir,







A.4

1  
2 at a later stage that on the evidence something may  
3 have happened to any of those children while they  
4 were on Wards 4A or 4B which caused or contributed  
5 to his or her subsequent death elsewhere, then of  
6 course I will go into the matter and adduce the  
7 evidence, but it is not my present intention.

8 I am excluding the 10, sir, for  
9 those reasons. I will come back to reconcile the  
10 numbers in a moment, if I may.

11 First, in light of the places where  
12 they died, they are not strictly within the Terms of  
13 Reference and, second, because in the case of  
14 surgical deaths or deaths following surgery without  
15 the children ever having returned to the wards, it  
16 certainly appears that the likelihood is remote that  
17 their deaths are attributable to anything that may  
18 have occurred on Wards 4A and 4B.

19 With respect to the numbers, the  
20 police had 46, I have taken 10, that leaves 36.  
21 Dr. Gilmour-Bryson's evidence was that there were 34  
22 deaths on the ward. The other two who are not I  
23 confess strictly within the Terms of Reference but  
24 about whom nevertheless I propose to lead evidence  
25 are, first, Laura Woodcock, who is No. 1 on the police  
list. You may remember, sir, that she died on the ward







A.5

1  
2 but the day before our period begins June 30, 1980,  
3 and in my view, sir, unless directed otherwise, that  
4 should be considered and I propose to lead evidence  
5 about it.

6 The other added starter is Kevin Pacsai  
7 who is No. 40 on the police list, page 46. He died  
8 within the period but not on the ward. Keven Pacsai  
9 had been transferred from the ward directly to the  
10 Intensive Care Unit approximately four hours before  
11 he died. He died in the Intensive Care Unit. I  
12 propose, sir, to include that death because, first, it  
13 appears subject of course to the evidence that the  
14 critical symptoms developed on the ward were  
15 indeed the reason for his transfer. Second, the  
16 interval between his leaving the ward and his death  
17 was sufficiently short that one cannot preclude the  
18 possibility that it was a ward occurrence or circum-  
19 stance that was involved in his death and, third, and  
20 perhaps most compelling, this was one of the four deaths  
21 in respect of which Susan Nelles was charged. We will  
22 certainly be involved in the consideration in the  
23 second phase of the Inquiry, sir, and in my submission  
24 it would be rather artificial to exclude it from the  
25 first part.

So I come then to 36 deaths about





A.6

1  
2 which it is my present intention to adduce evidence.

3 I should make one thing perfectly  
4 clear, sir, because the numbers that have been talked  
5 about the last couple of years, talked about suspicious  
6 deaths and that sort of thing, the 36 deaths I have  
7 just attempted to identify by category are not at  
8 least yet to be considered as suspicious deaths. They  
9 are all of the deaths which in my submission you are  
10 required to investigate. In the light of all of the  
11 evidence of course you may conclude that none or some  
12 or all of them are suspicious, but that is a determi-  
13 nation, sir, that you will of course make later. For  
14 now the 36 are only brought forward as the total to  
15 be examined.

16 MR. ORTVED: Can I just say that  
17 yesterday Mr. Lamek indicated that the Gitters baby  
18 was one of the babies that he intended to include  
19 and I take it that he has now revised that?

20 MR. LAMEK: That is right. Gittens  
21 is not one of those. Gittens died elsewhere than the  
22 ward, like Pacsai in a sense, but Pacsai in my  
23 submission, as the most compelling reason for his  
24 inclusion here, is the fact that he was one of those  
25 in respect of whose death a charge was laid, and he  
would therefore of necessity be involved within the  
scope of this Inquiry.







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THE COMMISSIONER: Yes. I think people should have time to reflect on that but if anyone has any contrary views about the scope of the investigation I think sometime fairly shortly these should be brought forward, but I do not imagine that anyone has any immediate comments.

MR. STRATHY: The only immediate comment I would have is that it may not be possible at a very early stage to say whether some one or more other deaths should be included in the review.

What I understood Mr. Lamek to be saying was that he would be open to suggestion on reasonable grounds to extend the scope by any other number of children.

MR. LAMEK: Of course, yes, sir.

THE COMMISSIONER: Subject always, of course, to the Terms of Reference. I may not be able, in some cases where they died in the Operating Room, but if there is no connection with the ward at all, I would probably have to have the Terms revised.

MR. STRATHY: I think it would be subject to the proviso that whoever suggested it be reviewed or extended produces some reason for doing it.





A.8

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THE COMMISSIONER: Yes.

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MR. LAMEK: May I ask Dr. Rowe to

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come to the witness box, then?

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DR. RICHARD DESMOND ROWE, Resumed

3

DIRECT EXAMINATION BY MR. LAMEK (CONTINUED):

4

Q. Dr. Rowe, I would like to start

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today by going back in time from the point to which

6

we had progressed yesterday, to a death that

7

occurred in August 1980, that of Paul Murphy. Now

8

the Hospital record here is a very bulky one and I

9

believe that my particular interest lies in the third  
of the three volumes of it, so I thought it proper to

10

reproduce the Hospital record in its entirety. I

11

will show it to you now and ask you if you can

12

recognize it so we may mark it as an exhibit.

13

A. I recognize Volume 1 as Paul

14

Murphy's Hospital record.

15

Q. Thank you.

16

A. I recognize Volume 2 as Paul

Murphy's Hospital record.

17

Q. Thank you.

18

A. And Volume 3.

19

MR. LAMEK: Thank you very much. Could

20

this be marked, Mr. Commissioner, the entire exhibit  
together perhaps as A, B and C?

21

THE COMMISSIONER: Exhibit 80.

22

--- EXHIBIT NO. 80-A: Volume 1, Medical Record  
of Paul Murphy.

23

--- EXHIBIT NO. 80-B: Volume 2, Medical Record  
of Paul Murphy.

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B.2

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--- EXHIBIT NO. 80-C: Volume 3, Medical Record  
of Paul Murphy.

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Q I tell you, Dr. Rowe, I believe  
the matters which I am particularly interested in are  
to be found in Volume 3 of the record. Of course if  
there are matters in either of the other volumes  
that you think should be brought to our attention that  
is the reason they are all here.

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Now, Paul Murphy died on August 23rd,  
1980, on the Cardiac Ward, did he not?

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12

A. Yes, he did.

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Q And he was then almost 15 years  
old?

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21

A. Yes.

Q And he had had a long acquaintance  
with the Division of Cardiology at the Hospital for  
Sick Children?

22

23

24

25

A. Yes.

Q He had undergone I believe  
surgery at the age of 12-1/2 years, and since then  
although seen very regularly he had continuing and it  
is described in this way in the chart as intractable  
congestive heart failure, is that right?

A. Yes.

Q Now there is behind you again,







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Dr. Rowe, a diagram of the heart of Paul Murphy. Can you tell me first whether it accurately portrays the heart of that boy?

A. I understand that to be so.

MR. LAMEK: May that be the next exhibit please, Mr. Commissioner?

THE COMMISSIONER: Exhibit 81.

--- EXHIBIT NO. 81: Heart Diagram of Paul Murphy.

MR. LAMEK: Q And would you please describe the anatomy of that heart, please?

A. I am not familiar with all the previous history of this patient.

Q. Yes.

A. He is a patient that has been followed since his very early days by Dr. Fowler of the Division, and so I am only familiar with what I have been informed by Dr. Fowler and others.

Q. Yes, that is understood.

A. He had a condition which is called variously ventricular septal defect with pulmonary atresia but in other terms it has been more popularly known as tetralogy of Fallot with pulmonary atresia. So it was the most severe form of the condition.





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The characteristic in his case was that he had extremely small pulmonary arteries. The tetralogy you will remember is a large ventricular communication and obstruction to blood going out to the lungs. He had, as part of that malformation, a right aortic arch meaning that the aorta came out the left ventricle normally and then went upwards and instead of curving to the left side of the body and going down inside the chest it went to the right. While ordinarily that is no problem for anybody, in somebody who has a very severe malformation like this there can be problems because the aorta becomes very, very large since it is carrying most of the blood. There is very little blood going to the lungs. The diagram here represents his status at the last admission and he had at some time in the first part of his assay the aorta removed and a plastic tube graft placed in there to substitute for that because it had become so huge and enlarged that it had compressed the entrance of blood from the upper part of the body into the heart. The supravana cava was being compressed by the huge aorta





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The aorta is large as I have said because very little blood was getting out to the lungs.

This is an extremely difficult condition to treat because unless these arteries are large they will not accept the normal amount of blood to go through the lung. So in order to try and enlarge those arteries he had had a large patch, or gusset placed by the surgeons into the pulmonary artery and up to its bifurcation or branching.

My understanding of this is that over the years this had not helped the growth of the arteries and because of the fact that he had the small arteries it was not possible to close the ventricular defect. Because if that had been closed and blood could not be pumped out through the lungs because of the small size of the arteries, in other words the sponge would not have accepted the material, then there would have been a lot of back pressure and immediate failure and death. So this had to be left as sort of a safety valve as it were so that blood, if it couldn't get out that way could go over the other side.

His situation was such that he nevertheless could not get much blood through the lungs so he was continually short of oxygen and his ventricle







B2.2

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was failing, the pump part of it was failing and he

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had a lot of what is called tricuspid regurgitation

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and heart failure. He had had very many problems

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which had required many admissions for this condition

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and it was regarded that he was in intractable

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failure, meaning that there was nothing that could

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be offered to improve the situation.

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I gather from Dr. Fowler that there had been many attempts to try and improve the situation but that it had become recognized that all the modern methods available were not working and the anatomy was defeating the situation.

Q. Doctor, thank you. The course of Paul Murphy's final stay in the hospital is I think reasonably summarized in the discharge or death report at page 118 of Volume 3. Perhaps you could just turn to that to get an overview of his final stay. I am a bit interested by the names at the bottom of this report, Doctor. The typed name is that of Dr. Jedeikin.

A. Yes.

Q. The name on the left is that of Dr. Olley.

A. Yes.

Q. And the signature is that of Dr. Fowler, is it not?

A. Yes.

Q. "He is a boy who has post-operative tetralogy repair with pulmonary artresia who had a conduit repair of his right ventricular outflow tract at 12 years of age as well as a replacement of his







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"aortic arch. He has progressively

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become debilitated with severe

4

intractible congestive heart failure,

5

unresponsive to medical therapy using

6

digoxin, lasix or hydrodiuril."

7

He had been admitted this time because  
he appeared lethargic and he had involuntary movements,  
particularly of his arm, did he not?

9

A. Yes.

10

Q. And apparently of his face as  
well, facial muscles and vomiting?

11

12

A. Yes.

13

Q. And he was admitted to try to  
adjust the medications that he was receiving for his  
congestive heart failure and try to do something about  
keep the congestive heart failure under control?

15

16

A. Yes.

17

Q. He was seen in the Neurological  
Department, the involuntary movements of his arms,  
hands, face and so on and no particular cause for that  
could be found. He continued on digoxin and diuretics  
while he was in the hospital and he was given  
analgesics as required.

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On the evening of the 23rd of August,  
1980, he had a cardiac arrest and died.

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And that, in very short compass, is the cause of his final four days in the hospital, is it not?

A. Yes.

Q. Now, he had been seen in the follow-up consultation by Dr. Fowler on July 15th, 1980, and that may give us a clearer picture of the boy's condition. That reporting letter on that interview is found at page 3 of Volume 3, a letter dated July 16, 1980 to Dr. Dennis in Brampton who, I take it, was the referring physician or the family physician of this boy?

A. Yes.

Q. He reports that he had seen him the previous day, July 15th, and goes through the history.

"Physical examination: On general examination he looked moderately ill with a respiratory rate of 30 per minute and marked pitting oedema of his feet and ankles extending up to almost the level of his knees."

I take it oedema is a characteristic symptom of congestive heart failure, isn't it?

A. It's a late feature.





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Q. It's a late feature?

A. Yes.

Q. "His adomen seemed swollen and the circumference was 69 centimetres at the umbilicus. His liver was 6 centimetres below the right costal margin and very tender and his spleen was 3 centimetres below the left costal margin and tender. His blood pressure by oscillometry and his right arm was 100/60 and his femoral pulses were palpable."

Pausing there, is that the picture of the patient in severe late congestive heart failure?

A. Yes, it is.

Q. Reports on the cardiovascular system, electrocardiogram and can I take you to

Conclusions and Recommendations:

"On the basis of this assessment I feel that this boy is again having a lot of difficulty because of his severe intractible heart failure secondary right ventricular disease and small pulmonary arteries. He was discharged on digoxin and hydrodiuril.







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3 "Because of the gravity of the situation  
4 I felt that he should be admitted for  
5 further stabilization. He was inter-  
6 mittently rather confused during my  
7 examination, but most of the time was  
8 lucid.

9 This boy is remarkable in that he  
10 seems to come around after his many  
11 difficulties. I feel that he probably  
12 is not going to survive long, but I  
13 am sure we can make him more comfort-  
14 able by changing his diuretic regimen  
15 and increasing his serum potassium  
16 level."

17 Which, on the day of the interview  
18 had been 1.8.

19 We can easily say that is not a very  
20 optimistic picture that is painted by Dr. Fowler in  
21 the middle of July.

22 A. No.

23 Q. Indeed, it is an exceedingly  
24 gloomy outlook of this boy, isn't it?

25 A. Yes, it is.

Q. Now, shortly before that  
consultation Paul Murphy had spent some time in





C6 1  
2 the Hospital for Sick Children, had he not, he had  
3 been admitted on June 23rd, spent a couple of weeks  
4 while efforts were made to try to control congestive  
5 heart failure and he had been discharged on July the  
6 8th. There is a discharge note with respect to  
7 that admission at page 164 of Volume 3. Again, in  
8 order to get a feel for the picture I suggest it  
9 might be helpful to look at that, Doctor.

10 The note is written very late, for  
11 some reason it didn't get into the chart at the  
12 time of the discharge but it is written by  
13 Dr. Michael Reynolds and after the apology for the  
14 late arrival he goes on to say:

15 "He was admitted first on June 23, '80  
16 to July 8, '80 and then again on 15th  
17 July to 22nd July, both times in  
18 severe terminal congestive cardiac  
19 failure associated with his inoperable  
20 complex heart disease. Both times he  
21 was vigorously treated with a combina-  
22 tion of diuretic treatment and each  
23 time he left hospital symptomatically."  
24 I'm sorry, what does that mean "left  
25 hospital symptomatically"?

A. I imagine that he left with





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symptoms.

Q. I would have thought so too but it is a curious advert to find:

"He was somewhat improved though obviously still terminally ill with his heart disease."

So, it appears doesn't, Doctor, that over the summer of 1980 Paul Murphy was a very frequent visitor to the Hospital for Sick Children, his condition was clearly serious?

A. Yes.

Q. Do you agree with the assessment from your review of the chart, with the assessment of severe terminal congestive heart failure?

A. Yes, I actually saw him during that period of June myself in consultation while he was on the ward and I felt he was in a very severe state and he had been having a lot of trouble at that time of vomiting as well.

Q. And his complex heart disease, as referred to in that earlier discharge report, was inoperable, was it, there was no question about that?

A. Yes, it was.

Q. All right, he was admitted for the last time, as we know, on August 19, 1980







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and he presented at that time, as I recall it, having  
manifested what's called confusional state, which  
means I take it exactly what it says?

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A. Yes.

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Q. Poor memory, not responsive  
to communication and not following through with  
thoughts and that sort of thing?

9

A. Yes.

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Q. Headaches, as he says  
involuntary movements of his arm, swelling in the  
ankles and other limbs and vomiting. He was  
admitted for a neurological review and for the  
adjustment of his heart failure medication. He had  
been on digoxin and diuretics throughout this period  
had he not, Doctor?

16

A. Yes.

17

18

19

20

21

22

Q. And the progress notes of  
this last admission, which begin at page 124 of  
Volume 3, and maybe I can fairly characterize, and  
tell me if I'm wrong, there's a series of notes about  
his confusional state referring to the involuntary  
movements and the swelling and ademia that he was  
manifesting.

23

A. Yes.

24

25

Q. Page 127, for example, the





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first note on the page, and the date which isn't clear, but prior to or on the 21st, second entry in the note is:

"Oedema - generalized oedema over body especially both feet."

-----





DP/ak

1  
2  
3 The next note, the same day at  
4 7 o'clock in the morning, the bottom of the note,  
5 edema - feet and hands still puffy. Cough - has  
6 occasional wet wheezy cough.

7 The pattern is pretty constant  
8 throughout the notes, is it not?

9 A. Yes.

10 Q. Interestingly, on page 130,  
11 and this is merely an example of it because this  
12 is also not unusual in this chart, it is recorded  
13 on page 130 under the second note, 23/8/80 1900 hours,  
14 notwithstanding these obvious difficulties and  
15 problems, vital signs are stable. Although there was  
16 some fluctuation from time to time throughout the  
17 four days for the most part his vital signs appear  
18 to be relatively stable, do they not?

19 A. Yes.

20 Q. But even in that note,  
21 reference to continuing edema in feet and legs,  
22 circulation, extremities remain very cool and blue.

23 Then on that same day at 10:15, 10:25  
24 in the evening he died. Perhaps we could look at  
25 page 131 because that is the nurse's note of the  
immediately preceding period. The bottom half of  
page 131, 7:30 to 10 o'clock:







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"Vital signs - stable.

Behaviour - orientated lapsing into  
confusion in later evening. Taking  
sips of water. Requesting oxygen  
off and on."

At 10 o'clock he was sitting up in  
bed very confused at 10 past 10:00 "patient  
involuntary of stool".

A quarter past 10:00:

"Patient rolled over and turned to  
side then became unresponsive.

Respiration at this time very shallow  
and laboured. Blood pressure hard to  
obtain. Oxygen given by mask.

Dr. Wilkinson called."

At 28 minutes past 10:00 he was  
pronounced dead.

A. Yes.

Q . Going back then to page 130  
it appears to be a resident's note, 23.8.80, 10:25  
p.m.

"Called to see Paul because of lack  
of responsiveness. When examined  
he had no detectable blood pressure,  
pulses, heart beat or respirations.





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"Clearance of airway, stimulation and oxygen did not have any beneficial result.

Paul had been noted to be sitting up, talked with nurses and seemed well oriented just minutes before. No evidence of vomiting, aspiration. Had not been eating or drinking anything.

The patient was pronounced dead at 10:28 p.m."

Clearly, Doctor, that was a sudden death?

A. Yes.

Q. But fairly, I suggest, if I am reading it right, not accompanied by several of the events or elements in the pattern we have seen in other deaths. There is no reporting in any event of any arrhythmias, ventricular fibrillation, bradycardia, anything of that sort here. That may be because recordings were not made but there is no evidence of it, is there?

A. No, there is no evidence of it, but the way in which he died, however, suggests he died in ventricular fibrillation.





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Q. Suggests he died of  
ventricular fibrillation?

A. Yes.

Q. Are any of the events which  
you have agreed in other cases are consistent with  
digoxin intoxication, are any of those events or  
circumstances present in this death, as it is  
recorded in the chart?

A. I think he had some neurologic  
signs which we have noticed in others, and he had  
vomiting. I am not sure whether vomiting was a  
major part of this term or not. I have not looked  
through the record that closely over this issue.

Q. I don't see anything about  
vomiting either in the final nursing note or in the  
note of the resident.

A. No, I think the major feature  
would be that the suddenness of his death was  
consistent with a major arrhythmia.

THE COMMISSIONER: Sorry, I missed  
that.

THE WITNESS: The suddenness of his  
death is consistent with a major arrhythmia.

THE COMMISSIONER: I think the  
question was whether it was consistent with digoxin







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toxicity.

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MR. LAMEK: Q. I asked whether any of the events were consistent and Dr. Rowe has focused on any of the events, and identified one or two that would perhaps be common to a pattern consistent with that pattern which we have seen in other cases in which you acknowledge to be consistent with digoxin intoxication.

A. Only the sudden death and the presumed dysrhythmia.

Q. Sudden death and a presumed dysrhythmia.

A. Yes.

Q. Is there any evidence of a sudden onset of bradycardia?

A. No.

Q. You said no vomiting or anything of that sort.

A. No.

Q. Doctor, are you satisfied in your medical judgment that this death was caused by Paul Murphy's clinical condition?

A. Yes.

Q. I take it the manner of his dying is consistent, in your view, with his





1  
2  
3 succumbing to a long standing congestive heart  
4 failure?

5 A. Yes.

6 Q. Doctor, I want to go next to  
7 a death which in some ways is rather similar to the  
8 one we have just looked at in Paul Murphy's case  
9 and that is the case of Laurette Heyworth. We do  
10 not have a chart for Laurette Heyworth so you are  
11 going to have to - we don't have a diagram, we do  
12 have a chart.

13 A. We don't have a diagram?

14 Q. It appears there may be a  
15 diagram. I ask you first, can you please identify  
16 for me what I understand to be the Hospital records  
17 for Laurette Heyworth? It says in the first page of  
18 the rather thick volume, Part II of two parts. I  
19 tell you I have not see a Part 1 of two parts and  
20 maybe you can do no more than identify it as part  
21 of the record of that child.

22 A. This is the record of Laurette  
23 Heyworth. I cannot be sure that it is the complete  
24 record.

25 Q. It does, however, appear to  
deal certainly with her last admission, does it not?

A. Yes, it does.





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MR. LAMEK: Thank you. May that be  
the next exhibit, please, Mr. Commissioner.

4

THE COMMISSIONER: Exhibit 82.

5

6

---EXHIBIT NO. 82: Medical Records of Laurette  
Heyworth.

7

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10

MR. LAMEK: Q. I said in some  
respects this case is a little reminiscent of the  
Paul Murphy case. This was an 11 year old girl,  
was she not?

11

A. Yes.

12

Q. And had a history of serious  
problems not restricted to cardiac problems.

13

A. No.

14

15

16

Q. And had rheumatoid arthritis  
as a small child and it stayed with her, and she  
did have cardiac problems.

17

A. Yes.

18

Q. And again, no stranger I  
take it to the Hospital for Sick Children?

19

A. No.

20

21

22

23

Q. We have located a diagram.  
It is behind you, Doctor, to the right. Can you  
tell me first if it accurately portrays the state  
of Laurette Heyworth's heart?

24

A. I think it is a good

25







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2

diagrammatic representation.

3

MR. LAMEK: May that be the next

4

exhibit, please.

5

THE COMMISSIONER: Exhibit 83.

6

--- EXHIBIT NO. 83: Heart Diagram of Laurette  
Heyworth.

7

MR. LAMEK: Q. Doctor, could you

8

describe the cardiac difficulties that appear in

9

the diagram and, if you think it appropriate to refer

10

to any of her other non-cardiac problems as going

11

to the total picture of the child, please do so.

12

A. Well, I'm not really

13

competent to talk about in detail the other problems

14

that she had, but I think I can outline in a broad

15

way what was involved and, then, if it is necessary,

others could perhaps amplify.

16

This unfortunate child was born with

17

hydrocephalus, a meningo-myelocoele, a congenital

18

defect of the spine associated with hydrocephalus,

19

meaning expansion of the cavities of the brain with

20

fluid, which is treated by a form of shunt which allows

21

drainage of the fluid in the brain into some other

part of the body.

22

In the first instance, I believe she

23

24

25





1  
2 had what is known as a ventricular atrial  
3 shunt and this is a valve, plastic tube, connecting  
4 I believe the ventricles of the brain with the  
5 right atrium. In other words, this is placed  
6 into veins in the neck and passed down so that it  
7 sits in the right atrium, and this diagram of Laurette  
8 is meant to try and represent the status of that  
9 situation. At the time of death she did not have  
10 that in, but it is important to show it because this  
11 is the contributing factor to her cardiac disease.

12 When the tube is in place it  
13 decompresses the brain, as it were, by allowing  
14 the fluid to discharge into the circulation. I am  
15 not sure exactly how long that had been in place  
16 but in 1979 she developed a problem, which has since  
17 become well recognized, of multiple small clots  
18 seeding off the end of the catheter into the right  
19 side of the circulation and out to the lungs. It  
20 has been demonstrated here in artistic form that  
21 these clots will go out as far as small vessels in  
22 the lung when the major arteries going to the  
23 lung through the pulmonary artery break up into their  
24 small branches and eventually get down to a size  
25 of the very smallest vessels which are not much  
bigger than a red blood corpuscle in diameter  
and then these things will plug various vessels.





DM.jc  
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So that they will cause an obstruction to the blood flowing through the lung. They do this on both sides and the condition gives rise to elevation of pressure behind the obstruction, thickening of the wall of the pumping chamber because of that pressure and eventually right heart failure.

When this was recognized in this girl the shunt was removed and a different site for the discharge of the fluid from the brain was apparently set up and this was a ventricular peritoneal shunt as I understand it. Nevertheless, the damage which she had in the lung vessels from the embolization of clot was permanent and was not relieved by any management that was offered. So that she developed persistent and severe right heart failure which progressed to the point where it became intractable, meaning that no matter what was being done in the way of medical management for the heart failure there was no obvious or lasting response and there was no improvement in the situation.

One of the difficulties with this situation is that the more obstruction you get, at least the more time goes by, once you get a certain degree of obstruction the more obstruction you tend to get it heaps up on one another, even though there







E.2

1  
2 are no free particles floating around any more. In  
3 other words, what happens is that there is pulmonary  
4 vascular obstruction, obstruction of blood flow  
5 through vessels in the lung and it just gets steadily  
6 worse.

7 In some forms of congenital heart  
8 disease where that type of damage to the vessels  
9 occurs there are escape routes such as ventricular  
10 defects and other things that allow blood to push  
11 through onto the other side and therefore relieve  
12 some of the pressure on this side. But in this  
13 situation the pressure can mount indefinitely and  
14 goes up and up and up, and usually there is a break-  
15 down of this valve situation because the valve can't  
16 tolerate the pressure and so there is leakage backwards  
17 and the failure, as I say, becomes intractable. So  
18 that is basically what went on inside this child's  
19 heart.

20 Q If I understand you, Doctor,  
21 the cardiac difficulties and the heart failure, the  
22 thickening of the muscle walls, were all secondary to  
23 an entirely different condition?

24 A It was certainly not due to  
25 congenital heart disease.

Q It appears that Laurette Heyworth





E.3

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originally had a normal, properly constructed heart,  
does it?

A. We believe so.

Q. A cardiac course had been  
followed by Dr. Fowler over an extended period of  
time, hadn't it, and he had seen her for reassessment  
on July the 18th, 1980.

Could you turn to page 27 of the  
Hospital record please.

A. I have that.

Q. That is Dr. Fowler's letter of  
July the 21st reporting to the referring paediatrician  
on the interview that he had had with Laurette  
Heyworth for reassessment on July 18th.

He records her history. Can you tell  
me please what is cor pulmonale?

A. Cor pulmonale is a term that is  
applied to patients who have heart - difficulty with  
heart function that is secondary to changes in the  
lung. There is a difference of opinion about how the  
term should be applied and many people simply apply  
it to individuals who have diseases of the lung  
airways that create that situation, but it can be  
broadly used to apply to any form of vascular disease  
in the lung.





E.4

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Q All right. He refers thereafter to many other problems due to hydrocephalus and neurological complications from that. Paraplegia, bilateral hip dislocation and neurogenic bladder and so on. She developed juvenile rheumatoid arthritis.

"Her most recent admission to hospital was about six weeks ago and she was fairly well controlled on medication until about two weeks ago when a progressive increase in swelling has been noted."

And again, is that suggestive of congestive heart failure, Doctor?

A Yes, and in the late stage.

Q "I was talking to the mother five days ago and we increased her diuretics and this has not had any effect."

And that is as of the end of the third week in July.

"Conclusions and recommendations: I feel that this girl with cor pulmonale secondary to a ventriculo-atrial shunt and embolization of the lungs is not doing very well. She has certainly an increase in her right







E.5

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2

"ventricular failure and needs more medication.

3

4

"We have to be very careful using

5

these huge doses of diuretics, however,

6

because she develops electrolyte

7

problems."

8

So it looks like a very careful and rather tightrope

9

walking type of management that is needed?

10

A. Yes, indeed.

11

Q. And Dr. Fowler in the last

12

paragraph says:

13

"If things go well I would be

14

interested in seeing her in a further

15

three-four months but if there are

16

problems I can see her sooner."

17

Reading between the lines, would I

18

be unduly skeptical to think that perhaps he didn't

19

expect to see her in three-four months?

20

A. I think he thought he might see

21

her sooner.

22

Q. Yes. With the kind of history

23

and observations that are reported as of the 21st

24

of July, Doctor, are you able to form any view or

25

opinion as to the prognosis for this child?

A. I would think that she had been





E.6

1  
2 in that state for about, I am not sure how long it  
3 was now, about two years, or a year and a half or  
4 something of that sort. I would think that she is  
5 nearing the end of this stage, but I don't know that  
6 you can make very accurate predictions on that, just  
7 that it is very advanced and the prognosis is guarded.

8 Q On page 29 there is Dr. Fowler's  
9 prior reporting letter about a week before the one  
10 we just read, dated July 15th, 1980, again to  
11 Dr. Gerstein:

12 "This girl was admitted to hospital  
13 last month for reassessment and a  
14 summary of her course is enclosed.  
15 She improved in hospital but recently,  
16 I understand, she has become more  
17 oedematous again and I suggested that  
18 the mother give her more diuretics.  
19 Apparently this has been effective.  
20 I think that this child is probably  
21 eventually going to die of cor  
22 pulmonale but I think with manipulation  
23 of medication we can make her fairly  
24 comfortable.

25 "I am to see her in my office in the  
next few days and I will report about  
findings at that time."





E.7

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2

A. Yes.

3

Q. So again as we saw with Murphy

4

the similarity over the course of the summer repeated

5

exposure to this patient by cardiologists dealing

6

with a problem about which he apparently has very

7

little cause for hope, is that fair?

8

A. Yes.

9

Q. The last admission to the

10

Hospital was on August the 26th. Can you tell us

11

A. I think the problem was she had

12

a lot of abdominal pain. In addition to a lot of

13

accumulation of fluid in the belly and gross heart

14

failure.

15

Q. Was there not also some concern

16

about trying to correct the electrolyte imbalances

17

as a result of the heavy diuretic doses she had been

18

A. I think she had, as most people

19

do at that stage, difficulty with the sodium levels

20

in the blood.

21

Q. Now, Doctor, from your review

22

of the course of her last admission to Hospital, is

23

there anything of particular significance that we

24

should have in mind in understanding perhaps the

25





E.8

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2

reason for this child's death on September the 2nd?

3

A. Anything during the course of

4

her hospitalization?

5

Q. Yes. We have seen, in general

6

terms, the ongoing course of this child and the state  
to which she had come by the summer of 1980. Anything

7

of particular significance during the course of her

8

last relatively short stay?

9

A. No. I think the abdominal pain

10

seemed to be one of the major features there and that

11

was I gather looked at by appropriate consultants

12

without finding any surgical reason for the pain, so

13

we don't know what that pain was due to. But we

14

suspect that it was probably, at least I would have

15

time, I would think they might, that the pain was

16

due to further swelling of the liver and the presence

17

of fluid in the abdominal cavity. Her girth, her

18

abdominal girth was increasing I see during that time.

19

So this abdominal pain situation was sort of uppermost

20

I think, as well as the question about the attempts

21

to modify the effects of the failure and then I think

22

the question of vomiting just prior to death.

23

Q. Doctor, page 153 of the record

24

in the progress notes. There is a note I think by

25







E.9

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Dr. Wilkinson who was a Resident, I believe, dated  
August the 28th, 28.8.80, refers to a "new problem".

"Vomited twice since 8:30 on 27.8." And there appears  
to be something that she began to do at this stage,  
that doesn't seem to have been an earlier complaint,  
does it? Anyway, Dr. Wilkinson so recorded it as a  
"New problem. No abdominal pain." And so on.

A. Yes.

Q. Sort of the left marginal note,  
although there is no margin, records: "Dig level  
2.5 on 27 Aug."

And indeed the Biochemistry report I  
think is found at page 191, so states. Then at the  
bottom: "A. Suspect dig toxicity."

A. Yes.

Q. "P. Will hold digoxin again."

A. Yes.

Q. I can't find any prior record  
in the course of this stay of digoxin having been held  
before that.





BMB.jc  
F

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2

Q. But I take it that Dr.

3

Wilkinson, or maybe it is unfair to ask you, but can

4

one infer, short of talking to him, that what he was

5

doing was linking this, what he thought was a new

6

problem of vomiting, to the somewhat elevated digoxin

7

level of the day before and saying the two may be

linked. Is that what he appears to be doing?

8

A. That's what that note suggests.

9

Q. Yes. Is that a concern that

10

you would have had in this child, Doctor?

11

A. That the vomiting might be due

12

to digoxin?

13

Q. Yes.

14

A. I would think that is a distinct

15

possibility because this baby, this youngster, is

16

someone with severe failure who has had a lot of

17

manipulation with diuretics and so on. So, vomiting

would have to include that differential.

18

Q. Right. In fact I referred you

19

to the page of the Biochemistry report, Doctor. The

20

first is page 191 where apparently a sample submitted

21

on August 26th, the date of the child's admission for

22

digoxin assay had been reported back as not sufficient

23

quantity. At page 193, sample, again sample on the

24

27th of August, reported a level of 2.5 nanograms per  
millilitre.

25





F.2

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2

A. Yes.

3

Q. And that no doubt is the

4

level to which Dr. Wilkinson was referring.

5

As far as I can see, that is the only digoxin level recorded during the final stay?

6

A. Yes.

7

Q. Of Laurette Heyworth?

8

A. Yes.

9

Q. There is a note on page 195,

10

apparently a sample was submitted September 2, at noon,

11

and the note is "digoxin to follow", but I do not

12

find any report of that.

13

So, we don't know what level may have been recorded in that sample.

14

But on page 158 of the record, again

15

in the Progress Notes, and this I take to be a

16

Cardiology Fellow's note, is it, on-service note?

17

A. On-service note Core 1, meaning

18

a first year paediatric resident, general paediatric

19

resident.

20

Q. Sorry. His order or proposal

21

at the foot of page 158 with respect to medication is

22

"give digoxin". So, digoxin is being held after the

23

2.5 level had been recorded and apparently on the

24

afternoon of the 28th of August it was resumed.

25







F.3

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Do you see any difficulty with that  
course of medication, Doctor?

3

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A. Well, I would think that I don't  
know what transpired between the resident and the  
cardiologist but I would suspect they must have  
conferred on that. I doubt that a Core 1 resident  
would make that decision on his own. But in any event,  
whatever the decision was, it appears to be that the  
level of digoxin, the blood level is a little over  
the usual guideline that the other aspects of the  
case warranted continuing. That is the only conclusion  
I can draw from this. I don't know what the situation  
was because I wasn't there.

14

Q. Sure.

15

A. But that could be determined  
I'm sure.

16

17

18

19

20

Q. Is it again, Doctor, one of  
those tightrope situations where you want to control  
the heart failure on the one hand and you recognize  
there may be some symptoms that are unfortunate if  
you do that?

21

A. Yes.

22

23

24

25

Q. And as the chart goes on from  
the last couple of days of August and the first couple  
of days of September, there is a pattern, is there not,





F.4

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of edema cyanosis, swelling. Is that the kind of  
pattern you would expect to see in a child late in  
severe congestive heart failure?

5

A. Yes.

6

7

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9

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11

Q. At page 165 there is a nursing  
note on the lower third of the page, bottom third of  
the page, for the long night 1/9/80, September 1st,  
written at 7 a.m. I am interested in the vital signs  
reports. It reports temperature, heart rate,  
respiration and so on. Cardiac monitor showed several  
ectopics since midnight.

12

Now, first, I take it that cardiac  
monitors were available on the Cardiology Ward?

13

14

A. Yes.

15

Q. And that is a device to which  
the patient is in some way hooked up?

16

17

A. Yes.

18

19

Q. And how in fact does the monitor  
operate, Doctor? Do you set it to give a warning  
signal at particular rates or what happens? I don't  
know how those things work.

20

21

A. You can just observe them. It  
depends upon the model as to what might be done.

22

23

Q. Yes.

24

A. I don't know exactly what the  
models were at that time.

25





P.5

1

2

Q. But there is a monitor?

3

A. You can set rates so that there

4

will be an above and below which extremities you may

5

have an alarm sound.

6

Q. Well, the child is apparently

7

attached to the cardiac monitor of one kind or another

8

and showed several ectopics. What are ectopics,

9

please?

A. That means premature beats.

10

Q. Okay.

11

A. Prematurely occurring beats.

12

Q. All right, they included PUC's?

13

A. I think that suggests PVC's.

14

Q. PVC's.

15

A. Premature ventricular contractions

I think that is short for.

16

Q. All right. Beginning about

17

6 a.m. And ectopic P waves. Is there also an

18

electrocardiogram that can be attached to the monitor?

19

A. Yes. That is usually what they

20

are observing on the monitor.

21

Q. An ectopic P wave beginning at

22

about 5 a.m. Heart rate was monitored hourly for

23

recording, respiration recorded hourly, increased

24

48 to 52 since 4 o'clock in the morning, was dyspneic.

25





F.6

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What is that, painful breathing?

A. Dyspneic means difficulty in breathing.

Q. Difficulty breathing throughout the night. Not a particularly comfortable night I take it, Doctor?

A. No.

Q. Page 166, long night note continued. I take it by now we are really talking about September 2. The shift started on September 1 but we are now in the morning of September 2 I think, Doctor. It is the long night shift that started September 1?

A. Yes.

Q. Now, at the bottom of the page. Laurette - is c/o complain, Doctor, is that what that means?

A. Yes.

Q. "Laurette c/o of shortness of breath since 0730. Oxygen was given by mask. Felt uncomfortable in any position. Restless. Doctor notified. 0830 patient expired. Death was very quick. Parents weren't in room. Upset." Now, again, that I take it sounds like a sudden event?







F.7

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2

A. Yes.

3

Q. Very quickly?

4

A. Yes.

5

Q. Is there any indication here of

6

the other cluster of symptoms that we have seen in

7

other cases: seizure, arrhythmias, bradycardia,

8

vomiting, that sort of thing?

9

A. She had, I think the main thing

10

is dyspneic and some irregularity at one time there,

11

I don't know for how long that went on. I think a

few hours before the event.

12

Q. Yes. Fairly, Doctor, in the

13

cases that we have remarked upon to date, it seemed to

14

me, if my recollection be right, that there has been

15

a relatively regular heart rate and heart beat and

so on that has suddenly gone into arrhythmia?

16

A. Yes.

17

Q. At the time of the onset of

18

the critical symptoms?

19

A. Yes.

20

Q. As I read this, that doesn't

appear to be the case here. Am I wrong about that?

21

A. No, except that I suppose, I

22

don't know how many others were on monitors but a

23

monitor would allow people to pick up irregularity.

24

25





P.8

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Q. Yes.

3

4

A. Perhaps other than on the hourly pulse rates and so on a little earlier it seemed, which is perhaps an explanation for that.

5

6

Q. Do you regard any of the final events that were reported in this chart as being consistent with digoxin intoxication?

7

8

A. Yes.

9

Q. Which are they?

10

11

A. I think the ectopic beats might be.

12

THE COMMISSIONER: I'm sorry, I can't hear you, Doctor.

13

14

THE WITNESS: The ectopic beats might be, Mr. Commissioner.

15

THE COMMISSIONER: All right.

16

17

THE WITNESS: And the abrupt final episode. I don't see any record there of what the monitor showed at that time.

18

19

MR. LAMEK: Q. I'm sorry, we don't know that?

20

21

A. We don't know, but it was obviously fairly rapid.

22

23

Q. All right. I take it, Doctor, that it is also your view that the events as they are

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F.9

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recorded are consistent with their clinical condition and course?

A. Yes.

Q. From your review of this chart, have you been able to form any opinion as to the probable cause of death of this child?

A. I think she died from the effects of chronic heart failure.

Q. At the time of her death, or following her death, do you recall any question raised by any other cardiologist or Cardiology Fellow suggesting some other cause of this child's death?

A. I do not.

Q. Thank you.

Now, Dr. Rowe, can we look to the death of, which I think follows the point in time that we reached yesterday, and we have now reached back to the two deaths that we passed over, and, in this case, Francis Volk. There is a chart that purports to portray the condition of Volk's heart. Again, can you tell us if that is a reasonable representation of the condition of his heart?

A. Yes.

MR. LAMEK: May that be the next exhibit please, Mr. Commissioner?







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THE COMMISSIONER: Yes, that would  
be Exhibit 84.

--- EXHIBIT NO. 84: Heart Diagram of  
Francis Volk.

THE COMMISSIONER: We don't have a  
copy of it apparently.

MR. LAMEK: You don't have a copy of  
the small one? Have mine, Mr. Commissioner, I don't  
understand it anyway.

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Rowe, dr.ex.  
(Lamek)

G/DP/ak

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Q. Dr. Rowe, would you please describe for us and show us on the diagram the cardiac malformations, deformations, difficulties of Francis Volk?

A. If I may just have a moment to look at the -- to check one thing.

Q. Yes, of course.

A. This is a youngster who had a number of abnormal situations relating to the heart and the lungs. The most important one, as far as the circulation is concerned, is the coarctation of the aorta which is represented here following its correction or repair. There would have been at that time a ductus arteriosus as well but that was treated at the time of the repair, I believe.

One of the important additional defects was an atrial communication, that is a hole in the atrial septum, an atrial septum defect, in which blood could pass from the left side to the right. Complicating all this was an abnormality of the right lung. This was a baby who had a number of what we call dysmorphic features, meaning that the baby had a number of physical characteristics that were a little unusual in appearance and also had a hypoplastic right lung.





G2

1  
2 That is, the right lung was too small. This leads  
3 to over-distention of the left lung which then  
4 pushes the heart over into the right side of the  
5 chest from the left side where it normally belongs.  
6 If the right lung cannot extend properly because  
7 it is too small, under-developed, then the left  
8 lung tends to try to take over the function and it  
9 becomes grossly distended and that pushes the heart  
10 to the right side of the chest, so the heart's  
11 action is somewhat handicapped, on a mechanical basis,  
12 by this pressure.

13 Because the right lung is small then  
14 the artery going to the right lung from the main  
15 pulmonary artery where it divides into left and  
16 right branches, the right side of the artery is  
17 very small, and this situation is a difficult one  
18 because the hypoplastic lung is liable to become  
19 infected and it disturbs the dynamics of the  
20 circulation of blood going to the lungs.

21 So that the problems here were  
22 complicated by the - the problems as far as the  
23 heart were concerned were complicated by the lung  
24 difficulty and there was also, as it proved, a  
25 condition that was additional in the immune system  
of this baby and there was what is known as a





1  
2 partial DiGeorge Syndrome, D-i-G-e-o-r-g-e. This  
3 is a condition in which part of the thymic tissue  
4 or the thymus gland is missing and that is a  
5 very important area for the immune system of the  
6 body, meaning that if you have something abnormal  
7 of that sort you are much more susceptible to  
8 infection. The immune mechanism is not as good as  
9 it should be.

10 So that is the basic problem, a baby  
11 with some congenital defects, an atrial defect  
12 and a coarctation, with a relatively hypoplastic  
13 area or under-developed area of the aorta but nevertheless  
14 basically an ordinary coarctation plus an atrial  
15 defect and then disturbance of the whole pulmonary  
16 circulation because of the severely hypoplastic  
17 right lung.

18 Q. Thank you, Doctor.

19 The baby was admitted at the age of  
20 one day, was he not, from hospital in Thunder Bay,  
21 sent down to the Hospital for Sick Children from  
22 Thunder Bay Hospital?

23 A. He went to the Neonatal floor,  
24 yes.

25 Q. He went to the Neonatal floor  
on the 27th of July, I believe.







1

2

A. Yes.

3

4

Q. He was born on the 26th and  
I believe admitted to Sick Children's Hospital on  
the 27th?

5

6

A. That is correct.

7

Q. Why was he sent down here?

8

A. I think that he was found to  
have his heart on the wrong side because of this  
distended lung, and must have been having symptoms  
from that. I have not checked on the admitting  
note, but ---

12

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16

Q. Once again, I suggest that  
the course of the child is reasonably summarized  
in the discharge or death report which is on page 31  
of the chart. Could we usefully look at that,  
Doctor?

17

A. Yes.

18

19

20

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Q. Apparently half an hour after  
his birth the baby was dusky, and we talked about  
that yesterday, and fast respiration and was placed  
in oxygen. He developed increasing respiratory  
distress over the next six hours and required more  
oxygen. Other problems, possible infection of some  
kind and antibiotics were started at the hospital  
in Thunder Bay.





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On arrival at Sick Children's, it is reported, he had double volume blood exchange transfusion. Can you tell me about that, please? What is that and why was it done?

6

7

8

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A. I am not sure, I would have to look at the record for that. He was at that time under the neonatologist and he was not under our care at that particular point. Usually that is done because of jaundice.

10

11

Q. What is it, first of all, Doctor?

12

13

14

15

A. I would first have to look at the part of the chart where it refers to this so that I know. What is written on the discharge report is ---

16

17

Q. Mr. Commissioner, while Dr. Rowe is doing that, would this perhaps be a good time to take a short break?

18

19

THE COMMISSIONER: All right. We will take 15 minutes then.

20

---Short recess.

21

---Upon resuming.

22

23

24

25

THE COMMISSIONER: Yes, Mr. Lamek.

MR. LAMEK: Q. Dr. Rowe, we were talking about Baby Volk and I had asked you about





1  
2 the reference in the discharge report at page 31 of  
3 the Hospital record as to his having had a double  
4 volume blood exchange transfusion on his arrival  
5 at Sick Children's Hospital. You were going to  
6 find that portion of the chart that explained what  
7 was done and why it was done.

8 Were you able to do that over the  
9 break?

10 A. I have not been able to find  
11 everything that will clarify this completely, but  
12 there is a note from the neonatologist on page 150.  
13 It is his initial consultation report which is  
14 made out on the first examination of the infant by  
15 the senior staff person involved.

16 Q. Yes.

17 A. This is, I am not sure - it  
18 says Intensive Care Unit there. I think that is  
19 the date ---

20 Q. That is the admission date,  
21 is it not?

22 A. I am not sure what date it is  
23 because I - that sounds as though it is down in the  
24 main Intensive Care area.

25 Q. I am sorry, but where do I  
see a reference on page 150?







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A. Page 150, it is half way down the page, it says on examination, poorly perfused? septic and then an arrow pointing to ET#1. I would wonder whether that might not refer to the exchange transfusion, #1.

Q. I see. There is another query on the left hand side, lower page. It looks like NB? Rhesus incompatibility.

A. Yes.

Q. Would that also be a reason for doing a blood exchange transfusion?

A. Yes, that would be a more usual reason, but I'm not quite sure why they would have done a transfusion - exchange transfusion for sepsus, but maybe things were pretty bad.

Q. In any event, does that involve the total exchange of the baby's blood for new blood?

A. It is not a total exchange but it is an exchange of a very large amount of the circulation. They draw out blood and replace it with fresh blood.

Q. Thank you for that, Dr. Rowe.

We go back to the discharge report on page 31, the overall view of this child's course.





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The middle of the page, on examination, no cyanosis or clubbing. Clubbing as I understand it refers to a heart beat of a particular kind, does it?

A. No, clubbing means a dilatation of the fingertips that appear like a tennis racquet.

Q. I'm sorry?

A. I had it quite wrong. That accompanies long standing cyanosis but you would not expect to see it in a new born baby.

Q. Hardly worth remarking upon in a day old child.

A. No.

Q. "Heart rate 140 per minute, respiratory rate 40 per minute, one half cm liver palpable below the right costal margin. No evidence of heart failure."

What is the significance of the small amount of the liver that is detectable below the right costal margin?

A. That would suggest that there is not severe heart failure.

Q. In fact, it is a little more positive than that, is it not - no evidence of heart failure.





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A. Yes.

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A. Yes.

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Q. It records blood pressure, femoral pulses and speak about the dysmorphia that you have mentioned and cardiac impulse on the right side of chest. Heart sounds audible on the right side of the chest. It describes the sounds.

Then x-ray confirms that indeed the heart is located on the right side, with questionable hypoplastic right lung. That would appear on x-ray, I take it?

Q. And EKG is performed. The impressions were of two pacemakers not at sinus level but lower in the right atrium. Could you explain that to us please? It is a rather odd observation.

A. The reason for that comment I would interpret to be related to the fact that the heart is on the right side of the chest. When that happens the question is whether the heart is really permanently on the right side of the chest or whether this is related to just the lung condition. It is usual to look at the P-wave appearances in patients whose heart is on the right because that may give you a clue as to whether the chambers are inverted or not.





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It is the appearance of the P wave and its direction as compared to the normal that sometimes can give a clue to whether the atrial chambers are mirror image or not. So here there was a question, it was thought that the P waves were abnormal in that sense and so I think that was probably the inference here that possibly this means that the heart is really dextro-cardia with situs inversus.

Q. When you say inverted, are there some situations where you find not only the heart on the right side but as it were back to front, twisted around?

A. Yes.

Q. And a two-dimensional epicardio-gram was done, and the inversion apparently is ruled out at that stage?

A. Yes.

Q. And then a cardiac catheterization. I wonder if it might be useful to turn to the catheterization report that I think is at page 202 of the record. That appears to have been performed on the 30th of July, two or three days after the child was admitted to the Hospital?

A. Yes.

Q. And the diagnoses that were made as a result of that investigation set out at the







H.2

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bottom, are those the ones that you have described  
to us in referring to the diagram, Doctor?

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A. Yes, except what is the last  
condition named there, the ambient arterial supply  
from the abdominal aorta to the right lower lobe and  
that is not illustrated on this diagram but I can  
perhaps show that.

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Q. Would you, please, so that we  
can understand that too, if it is a significant  
finding, is it?

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A. Yes, it does indicate that there  
is a problem, a further problem with the lung. If  
the lung is very small on the right side and not much  
blood is going through the pulmonary artery, then  
there are often branches that come off the aorta down  
in the abdomen and they go up through the diaphragm  
and supply part of the right lung. This is important  
in some situations because it is a high pressure  
blood supply to that lung and there is a possibility  
of hemorrhage and problems of that sort.

20

21

Q. Thank you. All right, so those  
are the investigations that were made and the diagnoses  
that were arrived at.

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Now the next page of the report, page  
32 of the record, the child's course in the Hospital





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is summarized. It records that on August 6 there was a significant deterioration in the baby's condition. Became hypertensive, hyperthermic, developed increased respiratory distress, severely acidotic with a PH of 6.98 and therefore incubated, prostoglandin, and said that he was ductus dependent. Ductus dependent means he is relying upon the duct to produce mixing, does it?

A. That is right.

Q. In fact on the 6th of August this baby had a cardiac arrest, didn't he?

A. Yes, he did.

Q. That I think you will find at page 70 in the progress notes reported for August the 6th, 1980.

"Various problems manifest at 10 minutes past midnight in the morning and at half past twelve in the morning cardiac arrest."

A. Yes.

Q. "No clinical pneumothorax".

A. Yes.

Q. "Good air entry".

A. Yes.

Q. And happily they were able to resuscitate this child?





11.4

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A. Yes.

3

Q And good response to these

4

measures?

5

A. Yes.

6

Q By 3:45 in the morning he is

7

described as stable on higher ventilation. So a bit

8

of an understatement in the discharge report isn't it

9

to say that he had a significant deterioration, in

10

fact he arrested on that morning?

11

A. Yes. that is true, and a PH of

6.98 is very close to being a lethal degree of acidosis.

12

Q He then developed tonic and

13

clonic seizures. He had moderate hematuria, what

14

should we be thinking about that, Doctor, tonic and

15

clonic seizures?

16

A. Well, he was just having

17

convulsions, I don't mean just, he was having

18

convulsions.

19

Q Are those two varieties of

convulsions?

20

A. Yes.

21

Q And the difference is what?

22

A. Tonic phase of a seizure is one

23

that usually precedes the clonic phase. Tonic is where

24

the stiffening occurs and the other is where the

25

shaking takes place.







H.5

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Q. And hematuria is?

3

A. I don't know what that was.

4

Q. Can you define the term for us?

5

A. Oh, hematuria means blood in

6

the urine. I don't, I can't, I would have to look  
in the note to see what that specific issue was.

7

Q. The white count increased to

8

32,000, is that indicative of some form of infection?

9

A. It might be. Yes, I think you

(2)

10

would probably assume that to be so and you would be

11

more than usually concerned about that in someone

12

where there was any question of a Di George syndrome.

13

Q. Now we may have done the

14

author of this discharge report a disservice by  
saying he understated deterioration on the 6th,

15

because he records an arrest on the 7th. Strictly

16

speaking I guess what we looked at was an arrest in

17

the very, very early hours of the 7th, wasn't it?

18

A. Yes.

19

Q. So I have done him a disservice.

20

7th of August he had a cardiac arrest, required

21

resuscitation with adrenalin and so on. Hypocalcemic,  
hypoglycemic thereafter.

22

On the 7th of August a systolic

23

ejection murmur was heard well over the back. Can

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25





H. G

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you tell us please, what that means?

3

A. I don't know what that reference

4

is to, I would have to look in the chart about that  
time.

5

6

Q. Is it a significant observation  
in the course of this child, Doctor?

7

8

A. You might expect to hear a  
murmur in that position.

9

Q. All right.

10

11

A. In a patient who has crepitation  
of the aorta. You would also hear that murmur in  
somebody who has a small pulmonary artery. I don't  
appreciate the special significance of that comment  
on that final day.

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Q. He was gradually weaned off  
prostoglandin and there was no change in his clinical  
condition. He required digoxin and diuretics for  
congestive cardiac failure and continued respiratory  
distress. That appears therefore to be a condition  
that developed at the end of the first week in August?

20

A. Yes.

21

Q. But not one that he demonstrated  
when he first was admitted to the Hospital?

22

A. That is correct.

23

Q. A partial Di George syndrome

24

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and we have referred to that already. Now, 25th of August he had surgery?

A. Yes.

Q In the meantime I believe, Doctor, he had gone to Ward 4A on August the 19th, had he not?

A. From the Intensive Care?

Q From the Intensive Care?

A. Yes.

Q That is at page 87 of the chart?

A. 87 --

Q On August 19th transferred to Ward 4A?

A. Yes, it looks as though he went from 7G, the Neonatal floor, to 4A at that point.

Q Now if you follow that note over to the next page, Doctor, the 4A transfer acceptance summary, page 88, the second line on page 88 after referring to the right lung problem reads, I believe:

"He is intermittently in failure but has been controlled on digoxin and diuretics. No failure today."

Now, when you have a child on medications that are classically used to control





H.8

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congestive heart failure, is it normal to see a child exhibiting one day congestive heart failure symptoms and another day not?

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A. That would depend upon the interpretation. I think that usually the patient who requires digoxin and diuretics, and who has one of two responses, he either gets-the failure is controlled or it isn't controlled. There may be fluctuations and indeed one day the diuretics may do a little more than on another day. They may have given lasix as a diuretic, or pushed for something like that, and they might have just done some temporary benefit which is not sustained.

14

15

16

Q. I see.

A. So it is possible, I wouldn't know without referring to every detailed note there as to how valid that statement is.

17

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19

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Q. The other event that preceded the surgery on August the 26th as I recall it is that on the 25th, before going to surgery, he went to the ICU, didn't he, and I think you will find that at page 96 of the chart. Certainly on the 26th, on the 25th of August, it seems the baby was transferred to the ICU?

23

24

25

A. Yes.







H.9

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Q. Is that usual, Doctor, to take the child to the ICU before surgery, indeed on the eve of surgery?

5

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A. It is not usual, it would only be if there was some concern about whether ventilation might help the baby for some hours, put the baby in better condition for surgery, and I think that previous note, that note at the top of the chart.

9

10

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12

Q. Yes.

A. Suggests ---

Q. The baby could benefit from

ventilation?

13

14

A. That they are considering that possibility.

15

16

Q. Yes, for several hours prior to surgery.

A. Yes.

17

18

19

Q. So that is the reason for sending him to the ICU on the 25th, the eve he is scheduled for operation?

20

A. I believe so.

21

22

Q. And the surgery is performed on the 26th, and dealing with the coarctation of the aorta and the patent ductus.

23

A. Yes.

24

25





H. 10

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Q And the patent ductus?

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A Yes.

4

Q Postoperatively the discharge

5

report says on page 32, he had two major problems.

6

First, a continued need for ventilatory support.

7

Second, intermediate episodes of fever and deterioration

8

attributed to sepsis. Again they were keeping a pretty

9

close eye on the child's blood and seeing what they

10

could grow on that blood, I take it?

11

A Yes.

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Q. On the 27th - could we refer first to the note as to the surgery. It is on page 99 of the Progress Notes. Dr. Fowler there under date of 26/8/80 talks about chronic failure, femoral pulse is not probable. I can't read the next one.

A. You mean the grade?

Q. Is that what it is?

A. Grade 2 out of 6, injection, murmur.

Q. Thank you.

A. At a stretch of the imagination that is murmur.

Q. And then we've got "The liver now more distended than it had been when the child first came in."

A. Yes.

Q. We've got 2 centimetres.

A. 2 centimetres, yes.

Q. Indicative of the failure.

A. Still within normal range.

Q. Thank you. And white blood cell count is below normal, is it?

A. No, it has come back to normal.

Q. Oh, it has come back to normal, all right.







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A. I would think that is what that means.

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Q. Needs coarctation repair to improve failure, should have operation today. Then, August 26th, again, I am having difficulty reading that, but I take it that is the report that Dr. Williams has indeed performed the surgery and a small picture of what he has done?

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A. Yes.

Q. Thank you. On page 101, the day following surgery the child is presumably in the Intensive Care Unit. He is noted to be gasping, colour became dusky and at 10:20 became bradycardic, put into 100 per cent oxygen, very little if no effect, doesn't sound to be in very good shape on the day following surgery, does he, Doctor?

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A. No, he sounds very bad.

Q. And, indeed, he really has a very eventful post-operative course, does he not? By the time we get to the end of September, into the early part of October, the lung problem is becoming rather serious and, indeed, on October the 10th he undergoes surgery for the removal of that right lung, doesn't he?

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A. Yes, which is a very major step.





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Q. At page 125 of the chart, he has now been in the Hospital, what, two and a half months but he has had surgery to repair the coarctation of his aorta and he is now having surgery to remove his hypoplastic right lung?

A. Yes.

Q. And the OR notes appear there at page 125.

Now, following that, this course, as I read the chart, becomes even more stormy, doesn't it? On the 12th, page 126, he has two cardiac arrests.

A. Yes.

Q. The first at 10 minutes to 2:00 in the morning with a flat ECG, and that happens about 2 minutes after someone has recorded his vital signs.

A. Yes.

Q. Apparently a very sudden arrest at that hour in the morning. Is that bicarb. on the next line?

A. Yes.

Q. That was given to him to produce, what, sinus bradycardia?

A. They are just saying that





1  
2  
3 bicarb was followed by the production of the sinus  
4 bradycardia, so, presumably there was no activity  
5 electrically and then a slow heart rate developed.

6 Q. Okay.

7 A. Occasional complexes less  
8 than 20 minutes. That note was made by a trained  
9 pediatric cardiologist who was training to be an  
10 Intensive Care person.

11 Q. Thank you. So, we really  
12 had a totally flat ECG, no electrical activity at  
13 all, as you say and bicarb is used and sinus  
14 bradycardia produced and slow heart beat comes out.

15 The note almost at the bottom of  
16 the page "? cause for arrest unknown". Is that  
17 something upon which you might be able to help us,  
18 Doctor? What is your view of that, if you have one,  
19 why, two minutes after the child having his vital  
20 signs taken, might he suddenly arrest, absolutely  
21 completely, absolutely flat ECG?

22 A. Yes. I can't read the first  
23 part of that "good day yesterday".

24 Q. "Good day yesterday".

25 A. "Wing from IV with reasonable  
gases".

Q. Yes.





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A. Well, you know, one of the most likely reasons for that would be that having been on ventillation the baby wasn't able to easily sustain the function with remaining lung at that point. So, anything that causes - and in this situation, you would be really skating along on the one remaining lung and there is plenty of opportunity I would think for an arrest to occur.

Q. Okay.

A. One of the commonest causes of arrests in small babies in nurseries is that associated with respiratory problems.

Q. Well, that's in the very early hours of the 12th at 1:50 in the morning and you turn over the page less than a couple of hours later he apparently had a second arrest.

A. Yes.

Q. Half way down the page 0330.

A. Yes.

Q. Cardiac arrest.

A. Yes.

Q. "Monitor alarm ECG flat".

Again, apparently no electrical activity. Resuscitation again started but old sodium bicarb seems to have done the trick again.







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A. Yes.

3

Q. "Came back quickly and yawned".

4

Amazing picture.

5

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Now, during the space of two hours  
this child has arrested twice. Any other thoughts  
with respect to the second arrest on that morning,  
Doctor, other than, as you have already suggested?

9

10

A. I'm not sure exactly what  
was done about the ventilator support after the  
first one.

11

12

Q. Yes.

13

14

A. I can't see that.

Q. It doesn't seem to be an

indication that he's put back on to the ventilator?

15

16

A. No. I mean, it might be  
possible to determine that I suppose by going through  
the ICU notes.

17

18

Q. Yes.

19

A. But that would take some  
time to do that.

20

Q. Sure.

21

22

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Now, I'm a little puzzled. I don't  
know whether there were two or three arrests on  
this day because three-quarters of the way down,  
page 127 there seems to be a note that at approximately





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4 o'clock they had another cardiac arrest of about one minute, responded to cardiac massage. Does that appear to be three arrests in the space of, what, three hours - a little over two hours?

A. I don't know. You see, one note is made by a nurse.

Q. Yes.

A. And the other note looks as though it is made by a resident.

Q. You mean it may be the same one as the one that is recorded by the nurse as having recorded at about 3:30?

A. At 3:30, yes, that's possible, I don't know.

Q. Well, certainly there were two notes of the earlier arrest. There is one at the bottom of the preceding page and one at the top of page 127 and you think these two may refer to the same arrests that occurred between 3:30 and 4:00 in the morning?

A. I think that's possible.

Q. Okay. I would have thought that two arrests in one night was enough for anyone.

A. Yes.

Q. And that all occurs on





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October the 12th and the child doesn't look like a particularly well child but a week later on the 20th he goes back to the ward, does he not?

5

A. On the 19th, is it?

6

7

Q. Before we do that, before we get there, Doctor, let's pause at page 129. He is still in the ICU and it is now October 14th. The top half of the page, the heading is "Cardiac Status". Oh, this refers, I'm sorry, back to the two episodes of extreme bradycardia requiring CPR, the two arrest situations is what is referred to here.

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A. Yes.

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Q. And page 133, on the 20th apparently he is transferred from the ICU and over the course of the next couple of pages we see the acceptance, the transfer note from the ICU and the acceptance from the ward, or at the bottom of page 135, indication going to ward.

18

A. Yes.

19

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Q. Okay. There is a rather blithe note at the bottom of page 134, isn't there, Doctor? Having referred to the removal of the lung on the 10th of October, 1980, reference subsequent course uneventful. As I say, it is rather blithe in light of the two arrests that occurred two days







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after the removal of the lung.

A. I think that probably reflects the physician's amazement that the baby is still alive.

Q. Yes. So, we have a child going back to the ward on the 20th, at page 145 of the chart, the record, and I think, Doctor, we've got one of those jumbles again. Page numbered 145 should I think follow the page that's numbered 146. If we start at page numbered 146 first we'll have the clearer sequence.

Page 146 we've got the long night nursing note on the 22nd of October, chest sounds clear after suction, colour pale and 70 per cent of oxygen, diaphoretic. That means the child is sweating a lot?

A. Yes.

Q. Throughout the night, restless behaviour, respiration rate 30 to 50, substernal, intercostal indrawing, very irregular at times, the apex pulse range 120 to 143 and regular. That's what seems to be going on during the night.

Then it is recorded apparently that on October 23rd - I can't read the name that is written twice on page 145 but I take it this is





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2

a physician's note, is it not, Doctor?

3

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A. I think it is a physician,  
yes. I can't read that either. I can't read the  
signature.

6

7

Q. "Called to see Francis..."  
the child's name, the child's first name -

8

"...for vomiting and then tachycardia..."?

9

A. Yes

10

11

12

Q. "After PT suction".

A. That would probably be  
physiotherapy suction, meaning they were cleaning  
out the mucus from the throat and so on.

13

14

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16

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Q. Okay. He records the pulse  
rate that he finds, the respiratory rate pale with  
indrawing respirations, left chest relatively clear.  
I have trouble reading the rest of it. Is there  
anything, if you can read it, of any significance  
in there?

18

19

A. It just implies that the  
heart is displaced to the right I think.

20

Q. Yes, okay.

21

22

A. And he's got a query, first  
and second heart sounds (?). Normal I think that  
must be.

23

24

25

Q. And if we turn back to





1  
2 page 145, which seems to be the continuation of  
3 that note:

4 "Francis continues to do poorly with  
5 episodes of..."

6 What is that, cardiovascular instability?

7 A. Yes.

8 Q. "Chest x-ray shows good  
9 inflation of remaining lung."

10 And this is what we propose to do about that, will  
11 look for signs of infection and check electrolytes,  
12 BUN, check the dig level, infection...?

13 A. Infectious diseases.

14 Q. Infectious diseases, right,  
15 okay, because he had a rash, did he not, check  
16 rash, yes.

17 A. I don't know where that is.

18 Q. Yes, there is reference  
19 earlier to a rash developing.

20 A. A rash, yes.

21 Q. Okay. So, the resident  
22 apparently called to see Francis, to see Baby Volk,  
23 vomiting and tachycardia following the suction and  
24 makes these observations and records what should be  
25 done and then later apparently on October 23rd, 1980,  
20 minutes past 5:00 in the afternoon a Code 23 is





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called for the IV team, followed by a full code for  
this baby who is pale and pulseless. Upon arrival -  
I take it that means no heart beat?

A. Yes.

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DP.jc  
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Q. They put a tube into him,  
cardiac massage, intracardial epinephrine. Still no  
pulse and a sequence of drugs administered to him.

A. Yes.

Q. What is the note at the end of  
that short paragraph, ventricular fibrillation - I  
cannot read the last word?

A. I do not know whether that is  
"occurred", it may be,

Q. Because certainly they attempted  
to defibrillate ---  
That is the next comment, is  
it not?

A. Yes, they did, the next sentence.

Q. And flat line, is that it?

A. Yes.

Q. That is recording the ECG  
tracings?

A. That would be it.

Q. They stopped the fibrillation  
and the thing goes entirely flat again?

A. Yes.

Q. Does not respond to compression,  
epinephrine or anything else, and the baby is pronounced  
dead at 5:15 - obviously a mistake as to the time -  
oh, no, the note is written at 5:20, written after  
the death at 5:15.





J.2

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The final diagnosis at the bottom  
of the page is what syndrome?

4

A. They call it Scimitar syndrome.

5

Q. What is that?

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I am not sure that is the  
correct word for this condition but there is a  
condition in which the right lung is hypoplastic, as  
in this case, the heart is swung over to the right  
somewhat. There is abnormal communications from the  
aorta through the diaphragm through that abnormal  
lung, but the veins from that lung drain into an  
unusual position below the diaphragm as well. I do  
not think that was the case here.

14

15

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Q. Clearly the three things listed  
as final diagnosis are not intended to be suggestions  
as to the cause of death; at least I take that to be  
clear. He refers to the surgical repair that has  
been done.

18

A. Yes.

19

20

Q. That is merely a state of the  
condition of the child, is it not?

21

A. Yes.

22

Q. Was there an autopsy on this  
child, Doctor?

23

24

25

A. Yes, there was. It was a  
limited autopsy.





J.3

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Q That is right, heart and lungs only.

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Page 19, the final autopsy report. After the history, the bottom line, the last paragraph on page 20, according to the pathologist:

7

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"Death is attributed to a combination of acute broncho-pneumonia and congestive heart failure."

10

11

12

13

Doctor, when you reviewed this chart did the condition of the child and the circumstances of his death lead you to agree or disagree with that stated cause of death?

14

15

16

A No, I did not review this data until later because I was away at the time.

17

18

19

A When I did review it I would have thought that the explanation offered there was perfectly valid.

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Q We have a child here who, prior to the final arrest, suffered three cardiac arrests in the course of his hospitalization and then eventually suffered an arrest from which he could not be resuscitated. Again, Doctor, I ask you to look







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at the terminal events that occurred on October 23rd,  
as they are recorded in the chart obviously, and what  
we appear to have is arrhythmia is recorded.

A. During the arrest - is that  
right, on page --

Q. I am looking at page 145 and  
page 146.

A. He was found without any pulse.  
It was during the resuscitation that they got the  
arrhythmia --

Q. That is absolutely right, so we  
do not know what pattern of heart activity preceded  
this?

A. No, we do not, really. At  
least I cannot see anything that tells us that.

Q. And the prior nursing note  
really does not help us with that, does it?

A. No, it does not suggest there  
is any bradycardia, though.

Q. Neither will it help us with  
respect to any other of the symptoms or events that we  
have seen exhibited in other of the cases that we have  
looked at?

A. No.

Q. The child was on digoxin, was  
he not?





J.5

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A. Yes.

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Q. During the course of his stay in the Hospital, at least from the middle of August until the third week in September, there seems to have been a very regular and close monitoring of digoxin levels on this child. The Biochemistry reports begin at page 401 of the record. Let us just run through them pretty quickly. I do not see a digoxin level reported from the Biochemistry Department until I get to page 422 and there in a sample submitted on the 14th of August a level is shown of 2.7?

12

A. Yes.

13

14

Q. That has an asterisk beside it and the explanatory note is: "Results flagged with an asterisk were reported today."

15

16

Is there any particular significance to the "reported today" of the Biochemistry results?

17

18

A. I think it is a cumulative report, so they identify which ones are --

19

20

Q. That does not suggest that notable or potentially disturbing results are notified immediately before the actual report is issued?

21

22

23

A. I think they may be, I am not sure of that. I think that that is what is generally meant by --

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J.6

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Q That is the 14th of August  
and next levels that I see are on page 424. The  
levels seem to be dropping from the 2.7 recorded on  
the 14th to 2.5 on the 20th to 2.1 on the 21st.

THE COMMISSIONER: What page is this?

MR. LAMEK: Page 424, Mr. Commissioner.  
2.5 on the 20th, 2.1 on the 21st and  
1.8 on the 22nd.

So if there was any concern at all  
about 2.7 the level seems to be coming down. That  
appears to be closely monitored, does it not?

THE WITNESS: Yes.

MR. LAMEK: Q On the 25th, on page  
425, the level goes up again to 3.1, on the 25th of  
August. The following day as appears from page 426,  
it is down to 2.0. Page 428, the next day again, the  
27th of August, the level is at 2.5 and page 429,  
the next day, there is daily monitoring of this level,  
on the 28th of August, down to 2.1.

Page 433, some five days later, on  
the 2nd of September, the level seems to be elevated  
a little again up to 2.8 and on the 3rd, down to 2.4,  
a series of levels that are marginally above that  
conservative range?

A. Yes.





J.7

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Q. Are they sufficiently above it to cause you any concern in following that course of levels?

A. I would not personally have concern in this situation. I don't know what the cardiologist who was responsible at that stage might have thought.

Q. Whatever, it is clear they were keeping a close eye on the levels?

A. Yes.

Q. On page 434, it was at 2.7, on the 4th of September, and then things seemed to come under control, on page 436, on the 9th of September it was down to 1.3 and on page 438 on the 22nd of September, 1.4.

Although those levels are some time apart at least they appear to have recorded two successive levels well within the therapeutic range, do we not?

A. Yes.

Q. That, so far as I can see from the report, Doctor, is the last of the digoxin levels that are reported?

A. Yes.

Q. And particularly with the last







J.8

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two levels reported, does that whole sequence of levels from August 14 through to September 22, cause you any concern as to any possible digoxin involvement from therapeutic doses with this child's death?

6

A. No.

7

8

9

Q. Do you recall, Doctor, whether there was any question raised by any other cardiologist or Cardiac Fellow, with respect to any possible digoxin involvement in this child's death?

10

11

A. I might not have heard any, if it were.

12

Q. You were not there at the time?

13

14

15

A. I was away, and the report would have been given to me by the Acting Chief when I got back but he did not, to my recollection, bring up any problems of that sort.

16

17

18

19

Q. Thank you very much, Doctor.  
At least we are going to move on to a record which is easier to handle than this morning's have been so far.

20

21

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Now, Doctor, the next death in chronological order that occurred on the ward after that of Francis Volk, was Matthew Lutes. He was not on the list that was prepared in preparation for the January 12, 1981 meeting. He died on November 17,





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1980, at 1:34 in the morning. Again, we have a diagram which purports to show the condition of that child's heart with its anomalies and deformities. Could you tell us first if that does so indeed portray those anomalies?

A. Yes, I believe it does.

MR. LAMEK: May that be the next exhibit, please, Mr. Commissioner?

--- EXHIBIT NO. 85: Heart Diagram of Matthew Lutes.

MR. MARSHALL: There does not appear to be a chart for this baby in small form.

MR. LAMEK: We will have to watch the big chart. We don't seem to have the small one.

THE WITNESS: You don't have the small one?

MR. LAMEK: No.

Q. Could you describe, please, the anatomy of Matthew Lutes' heart?

A. This is a baby with a number of congenital abnormalities but from the point of view of the heart the principal features were the presence of coarctation of the aorta, up here, with a patency of the ductus arteriosus in association, and ventricular septal defects.





K/DM/ak

1  
2 And ventricular septal defects usually occur  
3 singly, but they can occur multiply and in  
4 multiple numbers and in this case there were two  
5 such defects. The precise position is not able to  
6 be demonstrated on this diagram, but it is in the  
7 ventricular septum and two defects were present.

8 There was I believe as well an  
9 atrial defect which is not illustrated here. That  
10 is a defect in the atrial septum as well.

11 I am not quite sure, I would have  
12 to look at the full pathology report to know whether  
13 that was a true defect, or a trap door foramen ovale  
14 type defect, and that is the situation.

15 The circulation, the arrangement of  
16 the heart otherwise was normal, the connection of  
17 the veins to the appropriate atria was normal, and  
18 the pulmonary artery and the aorta were in the  
19 usual position. So it is coarctation of the aorta  
20 with a ductus arteriosus and two ventricular septal  
21 defects.

22 Q. Dr. Rowe, thank you. This  
23 chart raises I think the question that we all have  
24 to resolve if we can at the beginning, the question  
25 of terminology and meaning.

You have been referring throughout







Rowe, dr.ex.  
(Lamek)

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K2

your evidence to congenital heart defects. Am I right in thinking that those are malformations or defects with which the child was born?

A. Yes.

Q. And they mean no more than that, they came with him when he came into the world?

A. Yes.

Q. But that is not necessarily the same thing is it as a genetic malformation or defect?

A. No. Okay, I will let you proceed.

Q. Is it or is it not, what is the difference, if any, between congenital and genetic?

A. Well, genetic defect is also congenital.

Q. Yes, it is also congenital, but go on with it.

A. But not all congenital heart disease arises from genetic causes.

Q. A genetic defect, or malformation I take it is one which is inherited with the genetic material information that come together at





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the moment of conception?

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A. Yes.

4

Q. Whereas without any

5

chromosome defect or change or anything of that

6

sort, a congenital defect may develop in the course

7

of embryonic development?

8

A. Yes.

9

Q. Now I raise that question

10

here because in this child's instance there was

11

some question as to whether some of the difficulties

12

here might be genetic in origin, was there not?

13

A. Yes, very definitely.

14

Q. And chromosome investigation

15

was done and indeed as it turned out it was confirmed

16

that there was some chromosome abnormality with

17

respect to this child?

A. Yes.

18

Q. And that appears in

19

Dr. Hughes' letter to the referring physician at

20

the beginning of the chart on page 8?

A. Yes.

21

Q. I just wanted to be clear

22

because we have used the term congenital defects

23

throughout the evidence and I thought we had better

24

clarify what we are talking about.

25





K4

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A. Yes.

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Q. This baby had been born in

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the Sault on October the 20th. Apparently had

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been observed very shortly after birth to have

6

trouble breathing, fast respirations. At one week

7

a heartmurmur had been noted. The baby was trans-

8

ferred I believe, Doctor, to the Hospital for Sick

9

Children for cardiological evaluation on November

10

12th, 1980, referred in particular to Dr. Izukawa.

A. Yes.

11

Q. Once again the death report

12

is a useful summary of the course and it may be a

13

useful place to start, just to get an overview of

14

the events, and it is page 33 of the record.

15

He describes the neonatal course

16

prior to the transfer to the Hospital for Sick

17

Children.

18

With respect to the heart murmur,

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in item numbered 3, two-thirds of the way down page

33, he said:

20

"Initially this was thought to be a

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patent ductus. He was treated with

22

fluid restriction but was not started

23

on digoxin or diuretics. He was

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transferred to HSC because of continued

25

deterioration."





K5

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3 Now, physical examination at the  
4 Hospital for Sick Children:

5 "...no cyanosis or clubbing. Heart  
6 rate 144, resp. 48, mild congestive  
7 cardiac failure."

8 And there seems to be something of  
9 a development does there not, Doctor, between this  
10 child's neonatal course described half way down the  
11 page and the position that he presented when he  
12 arrived at Sick Children's Hospital. He was  
13 described as:

14 "...very tachypneic with respiratory  
15 rate of greater than 100."

16 By the time he gets to the Hospital for Sick Children  
17 he is at least at that moment recording a respiratory  
18 rate of 48. On the other hand, he now has mild  
19 congestive cardiac failure.

20 Those are the conditions, some of  
21 the conditions that are observed when he arrives.  
22 He is dysmorphic; long fingers and toes; left  
23 inguinal hernia and that sort of thing.

24 I take it it was that first package  
25 of observations that first led to the suspicion  
that there may be a genetic matter to be pursued here.

A. The genetic possibility was







K6

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really based on the dysmorphic features. A combination of multiple defects makes people think about the possibility of a chromosomal defect.

Q. On page 34 the report of the initial chest x-ray shows a significantly enlarged heart. Cardiothoracic ratio of 65 per cent. What is that the relationship of the size of the heart to the size of the whole thoracic?

A. That is exactly it, yes.

Q. And what is, in a child this size, what is the standard against which you are measuring that 65 per cent?

A. Well that is a debatable question between radiologists and cardiologists, but we would generally be concerned about anything over 55.

Q. Anything over 55?

A. Yes.

Q. "...and marked increased pulmonary vascularity."

What does that mean?

A. That means that the normal appearance of rather lacey markings of vessels in the lung that you can see on a chest x-ray are much more plethoric looking and enlarged, you can actually





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see the visible, the large vessels, or the x-ray image of the large vessels.

Q. The child has an electrocardiogram which showed a heart rate of 150. "Right axis deviation", what does that mean?

A. That is just a summation of the appearances that are obtained from specific limb leads, it is just an electrocardiographic term.

Q. All right.

A. And it is in that direction in all babies that are born actually.

Q. And I take it this is right atrial?

A. Yes.

Q. And right ventricular are referred to.

A. Yes.

Q. Now this child is, when he comes to you on November the 12th.

A. Yes, 3½ weeks.

Q. He was born on October the 20th, so he's 22, 23 days old, 3½ weeks.

A. Yes.

Q. First, what is the meaning of,





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and what if anything is the significance of the observation of right atrial and right ventricular hypertrophy?

A. Right atrial hypertrophy would indicate that the right atrium is under some stress and is enlarged, and the same thing would be true for the right ventricular, that the muscle mass is increased, or the chamber is enlarged.

Q. We have to observe that the Hospital went to work very swiftly with this child. He underwent a cardiac catheterization on the afternoon of his admission. That revealed a moderately large membranous ventricular septal defect with pulmonary hypertension. What does that all come down to in looking at this child? I notice his entry with digoxin and diuretics and oxygen and he is in a degree of heart failure, is he?

A. Yes. The discharge report is deficient in that description that says it's only a single, it infers it is only a single ventricular septal defect.

Q. Yes.

A. On page 61 the Angiographers report demonstrates that there are two ventricular







Rowe, dr.ex.  
(Lamek)

K9

1  
2 defects, that is the only importance. Now if you  
3 have a ventricular septal defect the importance to  
4 the baby is how big it is and if you have a tiny  
5 little pin hole thing it is not going to cause you  
6 any trouble. If you have a great big one then you  
7 are going to change pressures and produce pulmonary  
8 hypertension and allow a large amount of blood to  
9 flow through the defect and this is what the  
catheterization data suggests.

10 Q. So the observation on the  
11 preceding page was that on admission he was in  
12 mild congestive heart failure. The course of  
13 medical treatment was described as one that is  
14 classically associated with the treatment of CHF  
I take it?

15 A. Yes. You know, I think that  
16 one would want to have a little more detail. My  
17 impression from what has been told to me was that  
18 this baby had significant congestive heart failure  
19 at the time of admission. That the heart rate was  
20 150, that the liver was 3 centimetres below the  
21 costal margin in here. That in addition to the  
22 cardioneegaly there was an appearance of not only  
23 increased flow but some pulmonary edema. So that  
24 is not too mild, but these are differences of  
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opinion expressed by different levels of physicians.

Q. That is certainly a good deal more dramatic picture than the one that has been described in the summary in this report.

A. Yes.

Q. I think we should come to the detail of that later, Doctor, because it goes to the course of treatment obviously.

A. Yes.

Q. Half way down page:  
"By the 15th of November he had diffused fine creps in both basis."

A. Yes.

Q. Both basis of the lungs I take it?

A. Yes.

Q. What are fine creps?

A. These are very fine sounds, crepatations which are made when air passes over fluid that is in the lung sacs.

Q. Crepatation to me means squeaking or something like that.

A. No, it is not squeaking, these are fine distinct discrete sounds, crackles is what they are called.





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Q. "He remained in moderate  
respiratory distress with a respira-  
tory rate of about 60 per minute. He  
had a 3 centimetre enlargement of his  
liver. He was vomiting from time to  
time. His vital signs essentially  
stable and he was afebrile."

-----





L  
BB/cr

1 Q. Just going on with the  
2 summary course, because we do need to go back to  
3 some of this detail. The repeat test X-ray shows  
4 increased pulmonary vascularity and congestion but  
5 no focal consolidation. Does that mean it is  
6 general throughout?

7 A. Yes, they were presumably  
8 referring there to the possibility of pneumonia.

9 Q. All right.

10 A. At least, there was no  
11 evidence for that.

12 Q. Records electrolyte levels  
13 BUN venous gases. The digoxin level the previous  
14 day was 2.1, attempts by four doctors to obtain  
15 arterial gases were unsuccessful. He received  
16 multiple bolus doses of lasix in addition to his  
17 maintenance diuretics with little improvement in  
18 his clinical condition.

19 That sounds like a fairly drastic  
20 administration of diuretics, Doctor, or do I react  
21 too strongly to that?

22 A. No, I think that means  
23 that if they were giving him multiple doses they  
24 would be concerned about his state and wanting to  
25 improve him as rapidly as they could.

Q. And in particular about his







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congestive heart failure state.

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A. And the congestion in the  
lungs.

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Q. Yes. Are those two  
connected?

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A. Yes.

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Q. With little improvement in  
his clinical condition?

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A. Yes.

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Q. Still didn't have a fever,  
he wasn't septic looking, he was reasonably active,  
he had moderate respiratory distress, he rates from  
60 to 80. Most troublesome is this persistent fine  
noises that are being heard in the base of his lungs.

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Late evening of the 16th of November  
showed some increased accumulation of fluid in the  
chest.

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"It was apparent ..." page 35 -

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"...that his downhill course would  
continue unless there was some inter-  
vention. However, it was felt that  
unless interference with gaseous  
exchange could be documented, it was  
not wanted to ventilate him in the ICU."  
Now, could you explain that for us,





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please.

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A. Well, I think that suggests that there was discussion about whether he should go down to see if ventilation could help improve the pulmonary congestion. That would be what I would think about myself in this situation. I don't know what conversations went on with the intensivists about that but obviously the question that they might have asked was whether the blood gases were such as to warrant admitting him to an already fairly heavily occupied unit.

12

Q. All right.

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A. And I gather that the blood gases were interpreted as meaning that they felt he couldn't be helped, but I am jumping to conclusions because I don't have any notes about that.

16

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Q. All right. In fact he arrested at 10 minutes to 1 on the 17th of November, 1980 and couldn't be resuscitated?

19

A. Yes.

20

Q. And then the post mortem findings are recorded?

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A. Yes.

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Q. Now, Doctor, even from that summary, do I correctly understand that the significant





Rowe, dr.ex.  
(Lamek)

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problem with Matthew Lutes course was the  
congestive heart failure and the fluid in the lungs?

A. Yes.

Q. And was fluid in the lungs  
secondary or caused by the congestive heart failure?

A. Yes, it would be.

Q. So, the basic problem is  
one of CHF?

A. Yes.

MR. LAMEK: Now, Mr. Commissioner,  
I am about to go into the rather more detailed course  
of events but as it is a couple of minutes to one  
is this a convenient time to break for lunch?

THE COMMISSIONER: Yes, all right,  
until 2:30 then.

MR. LAMEK: Thank you.

---Luncheon recess.

- - - -







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--- Upon resuming:

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THE COMMISSIONER: Yes, Mr. Lamek?

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MR. LAMEK: Thank you, Mr. Commissioner.

5

Before I call Dr. Rowe back, the Hospital has been

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good enough to provide us with a corrected copy of

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the McKeil diagram, which, indeed, I understand the

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big one has been corrected as well. May I substitute

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that for the incorrect one? Oh, there never was a

10

small one, all right.

11

THE COMMISSIONER: It was 75. Well,

12

do you want to - will anybody tell on us if we just

13

slip in a new 75 for the old 75. If anybody wants

14

to take exception to it we would have to make it

75A, but I think we can just slip it in.

15

MR. LAMEK: In fact, Mr. Commissioner,

16

I don't think the document was marked as 75 because

17

there wasn't a small version of it and unless the

18

big chart is to be the exhibit, then there's no need

to worry about substituting the corrected one.

19

THE COMMISSIONER: All right. Well

20

then, we can get away with it, all right.

21

MR. LAMEK: Then we can get away with

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it, that's right. The Hospital has been also good

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enough to provide small versions of the Lutes diagram

which were not available this morning.

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Dr. Rowe, please.

Q. Dr. Rowe, when we broke for lunch we were talking about Matthew Lutes and we had said, in the course of the review of this chart, that on November 12th the child's congestive heart failure had begun to be treated with digoxin and aldactazide. I don't think we had identified the diuretic drug. In fact, as I understand it, it was aldactazide.

The chart on pages 75 and 76 - first 75, if you look at the medications record, the first item on that record for November 11 seems to require three digitalizing doses, does it not?

A. Yes.

Q. Of .041 milligrams each?

A. Yes.

Q. And they appear to have been given as ordered on the 12th and 13th?

A. Yes.

Q. And the maintenance doses were started on the 13th, although interestingly, it appears that the first maintenance dose was given before the -- no, sorry, after, 10 hours after the third of the digitalizing doses. Is that so?

A. Yes.





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Q. And continued until the evening dose, or until the morning dose on the 15th and then put on hold?

A. Yes.

Q. Now, in the meantime, on November 13, there was an order, which is found on page 79, and that number is clipped off by the copying, but happily the number following it, page 80 is clear enough.

A. Yes.

Q. On page 79 there appears to be an order dated November 13 ordering a digoxin level and lytes and BUN for following morning.

That level is reported at page 89 of the chart by the Biochemistry Department as being 2.1?

A. Yes.

Q. And as we said yesterday, in looking at levels of that order, they are marginally above that conservative therapeutic range. Is that correct?

A. Yes.

Q. But on November the 14th, as appears from page 80 of the chart, there appears to be a conservative order made there presumably in





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light of the level, reduce the digoxin dose to .01  
milligrams?

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A. Yes.

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Q. It had been initially 012, had  
it not?

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A. Yes.

8

Q. So, there is the reduction in  
the maintenance dose following the recorded level of  
2.1, and again on page 81, again on November 14th, on  
the next page, there is an order calling for a digoxin  
level on Monday. Monday of course didn't see a digoxin  
level because the baby died very early in the morning  
of Monday. So, that level was not done.

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But on November the 15th, as we see  
from page 82, there is an order at the bottom of the  
page, a six-item order, No. 5: "Hold digoxin tonight  
only".

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Can you help me, Doctor, as to why  
that order should have been given at that time? There  
had been a reading of 2.1, a reduction in the  
maintenance dose and now an order to hold a dose of  
digoxin?

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A. I think the baby was vomiting.

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Q. Was ... ?

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A. Vomiting, was it not?

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Q Well, let's take a look. You are quite right, on page 50 of the chart, the third note at 15/11/80 "Vomiting feeds; slow-feeder; dig level 2.1 on the 14th".

Is there a suggestion that the vomiting may have been some indication that 2.1, although a barely elevated level, was perhaps a little too high for this child?

A. I presume that was the interpretation placed upon that.

Q Or as a matter of precaution let's wait and find out?

A. Yes.

Q Yes. So, on page 83 it is clear that digoxin is restarted on the 16th, that order being given at 9:30?

A. Yes.

Q And on page 85 we find a whole series of orders "For tomorrow", electrolytes, BUN, all sorts of orders to be carried out 'tomorrow'.

A. Yes.

Q Now, Doctor, is the pattern of digoxin dosage and administration there satisfactorily explained in your view by what we have observed, that is to say, the slightly elevated level on the 14th,





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the reduction of the dose following that, the holding  
of one dose because of the possible connection with  
the vomiting that appeared on the 15th?

5

A. Yes.

6

Q. So, that in your view is an  
adequate explanation of that pattern, is it?

7

8

A. Yes, and the electrolyte  
abnormality on the 16th, they must have done an  
electrolyte value as well on that day.

10

11

Q. I take it, Doctor, it is not  
uncommon when one is first starting a regime of  
digoxin administration to take a little time to fix  
up on the right level of the maintenance dose?

12

13

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A. It's not really the level of  
the maintenance dose that we are fixing on. We are  
trying to fix on I think the response of the patient  
and we don't judge whether a patient responds to  
anti-congestive failure by what his digoxin level is.

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Q. I understand.

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A. We don't aim for a specific  
digoxin level.

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Q. I understand that. That is not quite what I asked you.

I take it the purpose is to find that dose which can be repeated over the course of time and which will produce beneficial effects in the patient without producing any indication of toxicity?

A. Yes.

Q. And although clinical observation is the main ingredient in that, nevertheless, the levels are a guide, are they not?

A. Just as a clinical --

Q. Yes. Therefore, one takes all the information that is available, including the fact that the baby is vomiting at a time when there is a marginally elevated level recorded and say, okay, let me adjust my dose to get to the right level where there is no chance of toxicity but equal chance of getting beneficial effects.

That is the object of the exercise, is it not?

A. Again, I disagree with the introduction of the level which you use here because, although we use a level, to be sure, the main issue that we take notice of is the response of the patient --







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Q. I understand. I'm sorry,  
I did not mean to interrupt.

A. No, that is all that I  
was saying.

Q. I understand that, but did  
we not agree a few moments ago that the likely reason  
for the reduction in the dose that was ordered in the  
case of this child was the level that had been obtained  
and, equally, the likely reason for withholding a  
dose of digoxin is the possibility of a connection  
between the vomiting which started to occur and the  
previous level which had been produced by the earlier  
maintenance dose? The two work together, do they  
not?

A. Yes. I would not quarrel  
with that view, except that the problem we have here  
and the problem I have with this particular issue is  
that you have a patient whose heart failure is getting  
worse.

Q. Yes.

A. So, you again have to  
accept some risks with the digoxin therapy.

Q. I understand that and I  
don't think we are apart.

All I was suggesting to you when we





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BL 32 started this particular dialogue was that it is not  
3 uncommon, when one is first getting a baby on to  
4 digoxin, to have to move around with the dosage and  
5 hold doses from time to time until you have got a  
6 dose that produces the effect you want without  
producing effects that you do not want.

7 A. Yes.

8 Q. I did not think it was that  
9 contentious a proposition, but perhaps I did not state  
10 it very clearly. Forgive me.

11 Doctor, what is toxoplasmosis?

12 A. Toxoplasmosis is an  
13 infection of a special nature which can affect small  
babies and can be present at birth.

14 Q. I notice on page 86 of the  
15 record there is a requisition form accompanying a  
16 sample requiring an examination of the sample for  
17 toxoplasmosis.

18 Mainly curiosity, than anything  
19 else, causes me to say what is that and why, in the  
circumstances of this chart, was it being requested?

20 A. I think that the only  
21 explanation I would have for that is that the diagnosis  
22 that was entered by whoever filled out that form was  
23 clearly patent ductus arteriosus.

24

25





1  
BB4 2 Q. Yes.  
3 A. Then, they ask for a TORCH  
4 study, which has been crossed out. If you had a  
5 ductus, you might be looking for a background of  
6 German Measles or something like that, and that is  
7 included in the TORCH study.  
8 Q. I see.  
9 A. I do not know why they  
10 changed it to toxoplasma. I don't understand --  
11 Q. You have no ready explanation for that requisition?  
12 A. No, unless there is a note  
13 in the record. That would have been on admission.  
14 Q. Yes.  
15 The date of that is the  
16 12th. It may be a total red herring but it is  
17 something that occurred to me.  
18 A. Yes.  
19 It says, on page 44, the  
20 Admitting Resident is looking on his plan of treatment, he is going to treat the heart failure, he is  
21 going to evaluate the X-ray and the cardiogram and  
22 the ECHO.  
23 Q. And evaluate for TORCH?  
24 A. And he is going to evaluate  
25





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BB5 2 for TORCH.

3 Q. All right. Thank you.  
4 Somehow in the process that became  
5 toxoplasmosis?

6 A. Yes. He was doing some  
7 sort of a screening for infection.

8 Q. Now, doctor, we have looked  
9 at the chart in overview and you have provided your  
10 explanation for the pattern of digoxin dosages and  
11 administration.

12 From your review of the chart, what  
13 do you regard as significant for our purposes of  
14 considering the time and manner of Matthew Lute's  
15 death?

16 A. The thing that impresses  
17 me about the description of events is that the  
18 congestive failure just steadily increased. It was  
19 not unusually rapid but it just steadily got worse  
20 despite the therapy that was being applied, and people  
21 were looking for other reasons for explaining that,  
22 such as infection; and wondering whether ventilation  
23 might help, and I think his failure just appears to  
24 me to be increasing steadily.

25 Q. Do you then agree with the  
characterization that Dr. Heilbut put on this at







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page 25 of the chart, the Discharge Report, where he said it was apparent that his downhill course would continue unless there was some intervention?

A. No, not on page 25. 35.

Q. 35, all right.

"It was apparent that his downhill course would continue unless there was some intervention."

A. Yes. I think that would be a fair statement.

Q. Would you categorize the downhill course as a steady decline, doctor?

A. Yes.

Q. Is it usual in such cases where you are observing a steady decline of a patient and the steady increase of the degree of failure for the patient to go into a sudden and precipitous decline at the end of the course?

A. I think that might happen if the failure is severe enough, yes.

Q. You think it may happen?

A. Yes.

Q. Is that the usual course?

A. If the failure is severe, yes, that can happen.





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Q. Was this failure of the severity that you would expect to see that sort of rapid decline at the end?

A. I would judge so, particularly on the basis that, the last day, there was a lot more distress with his breathing and so on, and I think this baby - and restlessness and so on - and I think this baby had obviously worse failure that day than before.

Q. Doctor, maybe one of the things that is puzzling people who are not versed in your profession is the idea that there may be extended periods of several hours where there appears to be a remission from the kind of downhill course that you are talking about where, through an entire shift, all the signs may be of stability, of encouragement; swelling is done, edema is down and irregularity has disappeared. Is that uncommon for there to be - I am sure it is not remission, but periods of apparent stability in this downhill course?

A. I would think apparent stability is probably the word. There may be changes that are not visible. The liver size may be enlarging while, apparently, the baby looks to be the same. There might be gallop rhythm developing as, again, there





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are signs that can only be elicited by physical examination.

Q. Or by monitoring?

A. Monitoring would simply show that you had a relatively fast heart rate. It would not detect gallop rhythm.

Q. On page 53 and 54, there are the notes of the last hours of Matthew Lutes.

Page 53, in the first paragraph, there is a note for November 16 from nine o'clock in the morning until seven o'clock at night. It records:

"Respirations - increased all day from 86-59, averaging high 70s. Substernally indrawing plus tugging. Baby becomes very restless with feeds. Resiprations increase.

...Apex - regular and stable. Increases when baby is upset, 121-147.

Colour - fairly pink in 35 per cent oxygen, becomes mottled and slightly dusky when baby is upset. Circumoral cyanosis noted later in shift."







1  
BB9 2 Towards evening, the baby became  
3 very blue around the mouth. I think that means  
4 edema?  
5 A. Yes.  
6 Q. "Nutrition - fed by tube  
7 every three hours. Last feed was  
8 missed because it took a long time  
9 to give the third feed. Fourth  
10 feed given at 7:15, no fussing.  
11 Patient becomes very upset and rest-  
12 less and the respiration rate  
13 increases when the feed is going  
14 through. The tubes are in the  
15 correct place by X-ray and testing  
16 with air. Became very restless at  
17 4:30 feed and did not settle as well.  
18 Doctor is informed."  
19 And told about the restlessness, I take it.  
20 "Elimination - lasix 3 mg given at  
21 1:40. Patient diuresed poorly."  
22 Then, a very interesting note at the end of that  
23 note, doctor:  
24 "Called dad who flew in immediately.  
25 Arrived at 18:00 hours."  
What, through your practiced clinical





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eye does that note say about this child in its course?

A. That the baby is getting worse, and the mother also seemed to feel that.

Q. Yes. She was concerned, about wanting to hold the baby and so on.

A. Yes.

Q. On the next page, 54, I think this precedes in time the note at the bottom of page 53, we have the period November 16, 7:00 p.m. until midnight. We have, "Vital signs - Apex 131-144 and regular."

One thing that does seem to have been relatively regular and stable over this last day is the heart rate of this child, does it not?

A. Yes.

Q. And its rhythm.

"Respirations continue to be laboured. Substernal indrawing and trachial tugging.

Nutrition - tolerating full-strength formula, taken by tube."

All those things were recorded.

Baby appeared to settle well and sleep for long periods. At midnight, the child was vomiting. Clear mucus and small amounts of bile-tinged mucus. Perspiring.





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TORONTO. ONTARIO

Rowe  
dr.ex. (Lamek)

2450

1  
BB11 2 "Colour is pale, somewhat dusky. Skin is clammy."  
3 Heart increases to 160 and respiration becomes more  
4 shallow and, at half past midnight, the doctor was  
5 called and, then Dr. Costigan appeared.  
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1/ak

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Q. "Baby became..." I'm not  
sure what that word is. Before bradycardia.

4

A. Severely.

5

Q. Is it severely?

6

A. Yes.

7

Q. "And cardiopulmonary  
resuscitation started at 10 minutes  
to 1:00 in the morning."

8

9

A. Yes.

10

Q. And the baby was pronounced  
dead at 1:34, Nurse Nelles' note.

11

12

A. Yes.

13

Q. Can you go back to what  
Dr. Costigan wrote in the chart at the bottom of  
page 53. It is clear, is it not, that he was  
not summonsed to this baby, he just wandered in  
to see Matthew?

14

15

16

17

A. It says there - no, that's  
correct, I am sorry.

18

19

Q. Indeed that is consistent  
with Nurse Nelles' note that then Dr. Costigan  
appeared, it was not he whom she had called.

20

21

22

A. No.

23

Q. He came by to see this baby  
and we may draw an inference from that I take it.

24

25







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2

The nurses and the doctors were concerned with him  
because of recent diaphoresis is that?

3

4

A. Yes.

5

Q. And vomiting of what material?

6

A. I think that is bilus.

7

Q. Bilus material. Thank you.

8

He examined the child and while he is examining him  
the child arrests?

9

A. Yes.

10

Q. And they start their

11

resuscitation procedures doing what they can but  
they are unable to revive him.

12

13

In the course of that investigation  
before the child goes into arrest he is breathing  
fast, he has poor peripheral circulation, cold  
clammy skin, a very distressed baby.

15

16

17

Doctor, would you categorize the  
onset of critical symptoms of terminal events as  
sudden in the way that we have categorized the  
onset of other events, similar events in other  
babies as sudden?

18

19

20

21

A. Yes.

22

Q. This was as sudden as some  
of those?

23

24

A. Yes, he had been declining

25





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2  
3 but I think the event that ended everything was  
4 very sudden.

5 Q. We have got one more note on the  
6 arrest, page 55 is a list of the medications given  
7 in the course of the arrest.

8 A. Yes, it is.

9 Q. And Dr. Costigan, I am sorry,  
10 back on page 53, records the patterns of response  
11 to adrenaline in any event and the final paragraph:

12 "No real response had wide complex  
13 low heart rate at times but was  
14 unresponsive to adrenaline. Produced  
15 fibrillation and defibrillate and  
16 then would go into slow irregular  
17 rhythm."

18 Apparently.

19 A. Yes.

20 Q. So we have got that pattern  
21 and mix in the sequence of arrhythmias that we have  
22 seen before.

23 A. Yes.

24 Q. For the January 12th, 1981  
25 meeting, Dr. Rowe, you didn't include Matthew Lutes  
in your list and therefore he was not categorized  
as either an expected or an unexpected death





1  
2  
3 according to your definition of those terms.

4 May I ask you to categorize him  
5 now for the purposes of that meeting?

6 A. I would have categorized him  
7 as an unexpected death.

8 Q. An unexpected death?

9 A. By those definitions of  
10 that particular meeting.

11 Q. And for what reason?

12 A. Because he had a malformation  
13 that I think we would have hopes that we might be  
14 able to do something with.

15 Q. Surgically?

16 A. Yes.

17 Q. Did you however regard the  
18 time and manner of his death as consistent with  
19 his anatomical cardiac problems and with his clinical  
20 condition?

21 A. Yes.

22 Q. Can I ask you about this  
23 child, the time of his dying was it also consistent  
24 with digoxin intoxication?

25 A. Yes.

Q. When did you first review  
this baby's death?







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A. I think it was in late  
December. No, it wouldn't have been late December,  
it must have been after that time, I don't know  
when it was.

Q. Did it occur to you then  
that his terminal course and events was consistent  
with digoxin intoxication?

A. No, no.

Q. I take it you were satisfied  
that the course of death was the clinical condition  
of the child resulting from his cardiac malformations?

A. Absolutely, yes.

Q. At the time or at any time  
after his death, did any other cardiologist in your  
division, or any Cardiac Fellow raise any question  
with respect to the cause of death of Matthew Lutes?

A. I don't recall that anybody  
did. That may have been mentioned at the meeting  
while I was away but in the report of it to me later  
I didn't get that message.

Q. Matthew Lutes, yes, he died  
while you were away, did he not?

A. Yes.

Q. When you say a meeting while  
you were away was there a meeting in November?





1

2

A. The daily meetings, yes.

3

Q. That is what you are

4

referring to?

5

A. Yes.

6

MR. LAMEK: Excuse me a minute,

7

Doctor.

8

Q. Perhaps we can move along

9

to the next one, Doctor. The next child we come to  
in chronological sequence is John Onofre who died

10

on December the 9th, which I take it was very soon

11

after you returned from your long trip?

12

A. Yes.

13

Q. And do you recall a

14

discussion at one of these cardiology morning  
meetings on the death of this child?

15

A. I don't remember specifically

16

but I am sure it was discussed.

17

Q. Can you tell me, please,

18

whether the diagram which is on the easel now

19

represents with reasonable accuracy the anatomy of

20

John Onofre's heart?

21

A. Yes, it is.

22

MR. LAMEK: May that be the next

23

exhibit please, Mr. Commissioner.

24

THE COMMISSIONER: Exhibit 86.

25





CC7 1  
2  
3 ---EXHIBIT NO. 86: Heart Diagram of John Onofre.

4 MR. LAMEK: Q. Could you, Doctor,  
5 please, describe the anatomy of that heart and the  
6 respects in which it differs from the normal heart?

7 A. This heart is the most severe  
8 form of the classical blue baby condition or  
9 tetralogy of Fallot. There is a large ventricular  
10 septal defect in this position. There is no exit  
11 or blood into the pulmonary artery from the right  
12 ventricle because the valve is atretic or completely  
13 sealed. The pulmonary arteries beyond that point  
14 are small and the only blood supply to that lung is  
15 through the ductus arteriosus at the time of birth.

16 The rest of the anatomy is a reflection  
17 of that, the arrangement of the attachment of  
18 arteries to chambers is normal and veins to chambers  
19 is normal. The only difference is the right side  
20 of the heart is thicker because the pressure in  
21 this chamber is now the same as in the left side.

22 This diagram also indicates what may  
23 have happened in the way of surgical treatment to  
24 this baby and again a subclavian artery has been  
25 transacted on the right side this time and  
anastomosed to the right pulmonary artery. That  
is a Blalock-Taussig anastomosis which is done to





1  
2 increase the amount of blood going to the lungs.

3 So venus blood comes in in the usual  
4 way to the right side of the heart and then it has  
5 two opportunities, one is to go out - I am sorry, it  
6 has only one opportunity, this one is to go out  
7 through the ventricular defect into this side and  
8 mix with blood that has come back from the lungs,  
9 and then that combined output goes into the aorta,  
10 some of it would go through the ductus arteriosus  
11 while it is patent and that amount will come back to  
12 this left side. Because it is a small vessel it is  
13 likely that there will be a relatively small amount  
14 of blood going through the lung therefore there is  
15 not very much oxygenated blood, or pink blood to  
16 mix with the blood that is coming from this side.  
17 So one would expect as soon as the ductus starts  
18 to constrict severe problems with lack of oxygen.

19 Q. Thank you. Again if I may  
20 summarize the course of that child in hospital at  
21 the Hospital for Sick Children. He was admitted  
22 on November the 22nd from the Women's College  
23 Hospital. He was then a day old. He was referred,  
24 as I understand it to your Hospital because there  
25 were irregularities in his heart beat, heart rate.  
He was cyanose. He cried. There was a question







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2  
3 that he might have congenital heart deformity.

4 A. Yes.

5 Q. That was on November the  
6 22nd.

7 The following day a two dimension  
8 echocardiogram and cardiac catheterization was  
9 carried out. The diagnosis from those two investiga-  
10 tions was the tetralogy of Fallot and other defects  
11 that you have described.

12 A. Yes.

13 Q. And the very next day, on  
14 the 24th, he went into surgery for the Blalock-  
15 Taussig shunt you have told us about, and I take it  
16 that falls into the category of palliative surgery,  
17 does it not, Doctor?

18 A. Yes.

19 Q. And thence from the OR  
20 Intensive Care Unit where the regular heart beat  
21 continued, but otherwise the post-operative course  
22 there seems to be relatively uneventful, does it not?

23 A. Yes.

24 Q. December the 1st he is  
25 transferred from the ICU to Ward 4B. The arrhythmias  
continue. It was suspected at one stage he had  
an infection, and although he has been on a regimen





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of digoxin that I believe was discontinued two or three days after he got back from the ICU, on December 4th?

A. Yes.

Q. And on December the 9th, 3:20 in the morning suddenly his heart rate drops, he suffers a cardiac arrest and he cannot be resuscitated and he is pronounced dead at 4:15 in the morning. That in capsule form is the cause of this child's demise?

A. Yes, it is.

Q. Now, Doctor, can we have your comments please on anything in the chart that in your view is significant in helping us to explain or to understand this baby's death and the time and manner of his dying?

A. One of the unusual things about this baby was that his presentation was really dominated by the irregularity of the heart beat. In fact when he came over to the Hospital one of our senior cardiologists, Dr. Freedom had as his principle concern that arrhythmia and wasn't quite sure initially whether this was due to congenital heart disease or whether it was due to some disease of the heart muscle.





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It was fairly quickly evident that there was a congenital cardiac defect of course, but everything proceeded appropriately thereafter with this baby as far as management was concerned, but there was still concern about the arrhythmia.

When digoxin was started, and I'm not quite sure whether that was done because the note doesn't clarify things, because of the fact the heart rate and the respiratory rate were increasing and therefore it was thought possibly that there was heart failure developing, or not, or whether it was because there was a growing concern about the arrhythmia, but at any rate, I think when the baby got back to the ward there was a decision made to discontinue the digoxin, since it hadn't influenced the arrhythmia.

Q Yes.

A Perhaps since it hadn't influenced the arrhythmia. I can't read the mind of the cardiologist exactly on that point.

Q All right.

A There was a lot of pus in the wound and I think that also caused some concern. There was some other problems with the bowel which initially they thought the bowel, there was some necrotizing problem in the bowel but presumably that







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turned out to be a viral infection, although, it produced a lot of bloody stool and I think there was some concern about that.

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So, there were a number of things going on there that were occupying people.

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I gather that the septic work-up in the antibiotic that was conducted appeared to be reasonable steps in case the baby was suffering from bloodstream infection, but there was other evidence later that argues that that wasn't successful from the post mortem. I mean, there is no question that baby had very extensive septicemia.

13

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And then there was - it's a bit hard to tell from looking at it - the baby was quite still blue crying and whether or not there was a problem with the shunt being large enough rather than too much was another issue that I would think might have been raised, and I believe that was one of the concerns of Dr. Izukawa.

19

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21

22

So, there were several things there: the irregularity of the heart, which is always of some concern in a small baby, especially if there is congenital heart disease.

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Although that didn't appear to be doing anything very much to the baby during this time,





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it is always a worrisome development because you are never quite sure what is going to happen next.

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Q. Yes.

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A. I think the septic question is an important one, as it turns out probably the most important one. The fact that the shunt at autopsy was quite small, only 2 millimetres in diameter, would argue that there may be a number of events combining to create a very precarious situation.

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Q. Doctor, before we go any further with any part of this, can we just address the question of the discontinuation of the digoxin administration?

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A. Yes.

Q. It appears from page 106 of the record, that the order to begin digoxin was on December 28th where a series of digitalizing doses is ordered.

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A. Yes.  
Q. The first to be given immediately and thereafter maintenance doses twice a day to .015 milligrams.

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Now, whatever the reason may have been for the discontinuance of digoxin, it does not appear to have been any concern about the level





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reported, there was only one digoxin level reported that I'm able to find, it is on page 125 and records the level of 1.1, which is entirely satisfactory and no cause for any concern and I see nothing in the progress notes in the first two or three days of December to suggest that there were any clinical signs that would even make anyone question digoxin intoxication?

A. No, I think that's right.

Q. Is that fair?

A. Yes. That rhythm is very unlikely to be related at all because it had been there before digoxin was even given.

Q. Yes.

A. Yes.

Q. So, the inference that you draw may be the right one, Doctor, that it wasn't doing any good as far as the arrhythmia was concerned?

A. Yes.

Q. And it was therefore discontinued?

A. Yes.

Q. It certainly doesn't appear from the chart, does it, that it was doing any harm?

A. No. I think that the only reason I can believe that somebody started digoxin in that





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situation was because they thought the origin of the arrhythmia was at atrial level and that it wasn't premature ventricular contractions. I think that Dr. Izukawa on the floor felt that they were ventricular contractions and I think he probably decided that drug was not the drug of choice for that treatment anyway and, so, discontinued the drug. My understanding is that he made a decision not to treat the arrhythmia.

Q. Now, Doctor, for purposes of your meeting on January 12, 1981, this death was categorized as unexpected?

A. Yes.

Q. In what respects, applying the definition you had for that meeting, was it unexpected?

A. Well, unexpected because under the conditions that we use the term for that meeting, this was not a condition where we would have regarded death as inevitable and we would have hoped to have got this baby further through.

Q. Now, you say you would have hoped that something might have been done for this baby but unfortunately his death intervened, I take it?

A. Yes.

Q. To the extent that there was a







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hope that something might have been done for this baby,  
is it fair, therefore, to say that by perhaps a wider  
definition than yours, this death was unexpected at  
the time that it occurred?

5

A. Yes.

6

7

Q. And therefore when in the final  
autopsy report at page 33 of the record, the pathologist  
says at the end of the final paragraph on that,  
beginning of the final paragraph on that page:

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"Death in this case was somewhat  
sudden and unexpected, being manifested  
by sudden onset of bradycardia and  
cardiac arrest."

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That in this case is not a character-  
ization with which you would disagree, I take it?

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A. No.

16

17

Q. No. I don't want to go on with  
the rest of that paragraph at this time, Doctor,  
because the final pathological report of autopsy  
wasn't in your hands at the time you were considering  
these deaths at the end of 1980, was it?

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A. No.

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A. No.

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Q. And therefore for purpose of  
what you then, what you and everyone else then knew

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DD.7

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or believed, it is the preliminary autopsy report

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we need to focus on. I want to come back to that

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later on, maybe next week, when perhaps a number of

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these deaths might have been looked at in a different

6

light, as indeed the pathologist appears to have

7

looked at this one in a different light?

8

A. Yes.

9

Q. But for the most part, let's

10

stay with what was in your mind at the time of the

11

death, or at the time you were preparing for the

January 12th, 1981 meeting.

12

It would be recognized - you did

13

recognize it you say as a sudden and unexpected death?

14

A. Yes.

15

Q. Was anything significant

16

revealed at autopsy that wasn't previously known?

17

For this purpose let us refer, as I say, to the

preliminary autopsy report, which is at page 29.

18

A. Yes, I think there is a reference

19

to banding the process of the myocardial septum No. 2

20

on page 30.

21

Q. Yes. Can you tell us please

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what the significant -- first, what it is and then

what the significance of it is?

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A. No, I'm not a pathologist but

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it is a change in the appearance of the muscle indicating injury. If you want something more detailed, I'm afraid you will have to ask Dr. Phillips for that information.

Q. Very well. Does not necrosis refer to tissue in this case?

A. Well, it's a form of muscle injury, as far as I can see.

Q. All right. Forgive me, Doctor, if I cannot get the meaning or significance of that from you, how are you able to tell me that that was a significant piece of information from autopsy?

A. Because it is a degree of injury to muscle that might conceivably be related to the development of arrhythmias.

THE COMMISSIONER: I wonder if I could just interrupt just for a moment?

MR. LAMEK: Yes, of course.

THE COMMISSIONER: This document is obviously misdated. It is dated December 9th, 1980 and it refers to a matter that clearly took place later on. It refers to something that took place in June 30th, 1981. Is there any other date on this anywhere?

MR. LAMEK: Mr. Commissioner, are we looking at the same page?







DN.9

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THE COMMISSIONER: I think so.

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MR. LAMEK: Page 29. I think you are looking at the final autopsy report, sir.

5

THE COMMISSIONER: Oh.

6

7

MR. LAMEK: Page 29 is the preliminary autopsy report, which is what Dr. Rowe had available as at the end of 1980.

8

9

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THE COMMISSIONER: Oh, I see, all right. Well, I'm looking at, I guess, the final one. But I just mention in passing that it is misdated.

11

12

MR. LAMEK: Well, with respect, sir, I understand the date is to refer to the date of autopsy not date of report.

13

14

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MR. SCOTT: Perhaps Mr. Lamek might clarify with the witness if he can how that happens. There is an explanation for it.

16

17

MR. LAMEK: Yes.

18

19

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THE COMMISSIONER: Oh.

MR. LAMEK: Well, perhaps we should do that and then perhaps we could go away and think about it for a few minutes.

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Page 29, Dr. Rowe, can you help us? The document is a preliminary autopsy report and I see a number of dates on it but the only one that says date in an unvarnished way reads December 9, 1980.





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Is it your understanding that that is the date upon which the document is prepared or the date upon which the autopsy was performed whose findings are reported in a preliminary way in this document?

THE WITNESS: I think that's the date of the autopsy because the date of the death is on the lower portion on the left side of the same group of lines.

THE COMMISSIONER: It may be but it is a strange way to conduct business because the date of the autopsy should be titled the date of the autopsy and the date should always be the date when you prepare a document. But it is too late I'm sure to change the system.

THE WITNESS: Mr. Commissioner, I am not sure exactly and I am making an assumption here and I think the only person who can clarify that for us is Dr. Phillips.

MR. LAMEK: I will tell you, Doctor, I have been frustrated throughout trying to find a date of the report, whether it be the preliminary or the final one.

THE WITNESS: Yes.

MR. LAMEK: Q. But is it fair to say





DD.11

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that the preliminary report which, as I understand,  
reports the growth pathology findings at autopsy,  
is available very quickly, within a matter of a day  
or two usually?

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A. Yes, very soon.

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Q. But the final autopsy report,  
which includes all sorts of other information,  
microscopic examination of tissue and so on, is often  
not available for two or three months?

10

A. Yes.

11

Q. Indeed, sometimes longer?

12

13

A. Yes, I think that's a reflection  
of what it is. Again, Dr. Phillips is the man to ask.

14

15

Q. But in neither case does the  
report bear a date of its own, a date of its making,  
does it?

16

A. I don't see one.

17

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THE COMMISSIONER: Well, are you  
going to ...

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MR. LAMEK: I'm in your hands entirely,  
Mr. Commissioner, if you want to take a short break,  
this is perhaps as good a time as any.

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THE COMMISSIONER: Well, no, it might  
be better to finish this child if that can be done.  
Obviously it can't be done that quickly.





DD.12

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MR. LAMEK: No, I think I can. Let

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me take a shot at it at any rate. It may be done

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more quickly if I take a break.

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Q. Is it fair to say, Dr.

Rowe, that Dr. Freedom and Dr. Trusler, Dr. Trusler having performed the surgery in this case, were apparently optimistic about this baby's prospects?

A. Yes.

Q. Dr. Trusler's reporting letter to Dr. Freedom is on page 9 of the record, is it not, reporting upon the surgery, saying in the last sentence of the long paragraph:

"We decided to heparinize the child and I have every hope that he will have a good result."

A. There is a caveat there.

Q. What is that, please?

A. That is that the sub-clavian artery was only 3.5 mm in its mid-area and there is a degree of spasm and this should open up with time.

Q. Certainly, there is a caveat. Dr. Trusler, however, appears to be reasonably optimistic about the outcome?

A. Yes.

Q. And when Dr. Freedom wrote to his referring physician on November 24, page 12 of the chart --





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A. Yes.

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Q. -- he was reporting merely

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upon the diagnosis at that time, was he not?

5

A. Yes, he was.

6

Q. But his sort of "P.S.",

7

footnote, "addendum" reports that the surgery was  
successfully performed on the morning of the 24th of

8

November.

9

A. Yes.

10

Q. Again, I think we can

11

characterize the letter as reasonably optimistic, can  
we not?

12

A. Yes.

13

Q. Just as you have said,

14

these people, too, seemed to have hoped there was  
something they could do for this baby.

16

A. The caveat in that letter,

17

if I may point it out, is the growth of the pulmonary  
arteries.

18

Q. The small main pulmonary

19

artery?

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A. "...the long-term outlook

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for this youngster depends on pro-

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moting the growth of the pulmonary

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arteries..."

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Q. Yes.

A. But I would agree that,  
otherwise, that is --

Q. And in the post operative  
period, the immediate post operative period, the  
baby seemed to be doing pretty well?

A. Yes.

Q. He went back to the ward  
and, although he had to be watched closely, his  
return to the ward suggests, does it not, that he  
was not considered to be at risk of imminent death  
at that stage?

A. No.

Q. He was stable.

A. Yes.

Q. We have talked about the  
digoxin course that he had. What about this child's  
terminal events? Can we look at page 61 of the  
chart, please. The notes really run between 61 and  
64. Perhaps we could start at page 64, because that  
is the note of events starting from 3:10 in the  
morning, the nurse's notes.

Apparently this child, too, is  
connected to a cardiac monitor.

"Cardiac monitor showed irregular







EE4

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rhythm with long pauses between  
beats. When listened to with  
stethoscope the same was heard.  
Bradycardic. Heart rate 88. When  
baby waked up by nurse, heart rate  
100. Notified Registered Nurse  
to stay with baby. Baby then  
arrested at 3:19."

At that stage, can we go back to  
page 61. At 9/12, at five o'clock, the note is made:  
"Called STAT..."

And I take it that means "called immediately"?

A. Yes.

Q. "...at 3:20 a.m. Baby was  
noted to be bradycardic. When  
arrived heart rate 40-100 and variable.  
Baby crying. IV infusing well.  
Pulse palpable. Called Medical  
Resident. Arrest at 3:29 - Arrest  
Team arrived. Junctional rhythm  
noted."

Is that what we talked about this  
morning?

Perhaps I had better ask you, if I  
did not ask you before, what is "Junctional rhythm"?





EE5

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A. Yes, I think we did talk about that before. "Junctional" is a rhythm that is not starting in the sinus node but starts nearer the atrioventricular node.

Q. It goes on:  
"Patient was incubated, received CPR..."

A. CardioPulmonary resuscitation.

Q. "...did not respond.  
Stopped at 4:10.

Etiology not obvious.  
Did not appear septic. Was on ampicillin and gentamicin. No other medications. Not dehydrated clinically."

There was some discrepancy between the nurse's noting of times and the Arrest noting of times, at ten minutes apart, am I correct, the nurse's time of arrest and the Resident's time of arrest? Nevertheless, we have a pattern that is pretty clear, do we not?

A. Yes.

Q. Again, there appears to have been a sudden onset of these terminal events;





EE6

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arrhythmia, bradycardia and a rapid decline that cannot be reversed?

A. That is correct.

Q. With the notation that the cause of all this is not obvious, the etiology is not obvious. We have fibrillation at some point. At page 62, at the top of the page - yes, go into defibrillation, which I assume implies that it was first fibrillation?

A. Yes, that is after the resuscitation was started.

Q. In the course of the resuscitation effort.

A. Yes.

Q. Is it not, doctor, very much like the pattern of sudden onset and rapid progress that we have seen in a number of the deaths that we discussed yesterday and last week?

A. Yes.

Q. Were you satisfied that this death, including the time and the manner of onset and progress of the terminal events, was consistent with the physical condition and the clinical condition of this child?

A. I think we were just





EE7

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surprised at that particular moment. We were not surprised when we got all the rest of the information.

THE COMMISSIONER: Sorry, you were not surprised...?

THE WITNESS: We were not surprised after we got all the information from autopsy. I think it was thought at the time that the most likely explanation for the death was that the arrhythmia that had been apparently benign all along became more significant.

MR. LAMEK: Q. Yes.

A. The other explanation, following the autopsy information, was that there were features there that could account for the baby dying, the sepsus, which was extensive, and I'm not sure exactly when that information came through, and the small size of the shunt. There was a 2 mm orifice which was much smaller than you would hope for, so that hypoxia and sepsus might have created the arrest. These are conditions that can produce findings of this sort.

Q. I think we should take the time, please, to go to the preliminary autopsy report, which is what you had available to you in January.







1

EE8

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A. I think we would have had

3

something available to us the next day.

4

Q. You may have had, but I

5

take it it would not have been any more than what

6

is contained in the preliminary autopsy report.

7

A. I'm not sure about that.

8

I think it would be surprising if there was not

9

evidence of pus, which is what determined the

10

diagnosis.

11

Q. Certainly, you were aware

12

from the preliminary autopsy report, page 31, and

13

indeed I take it before that, B. coli were cultured

14

from the catheter tip.

When did that become --

15

A. I'm not sure what that is.

16

Q. What is the significance

of that?

17

A. I do not know what that is.

18

Q. Is there anything in the

19

preliminary autopsy report that caused you, upon

20

seeing it, to say, okay, now we know what caused

21

this child's death? What did you know after seeing

22

this preliminary report that you did not know before?

23

A. I think we knew the size

24

of the shunt was small.

25





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EE9

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Q. You did not know that

3

before?

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A. We did not have that

5

information during life.

6

THE COMMISSIONER: Sorry, where is that? You knew that the size of the shunt was small?

7

THE WITNESS: Yes.

8

THE COMMISSIONER: Where is that?

9

MR. LAMEK: Is that 1(h)?

10

THE WITNESS: It does not say that

11

there, but we would have that information from Dr.

12

Freedom, who does the gross autopsy.

13

Q. Item 1(h), under the

14

anatomical diagnosis on page 29, refers to the

15

diameter of the shunt, does it not?

16

A. Yes. It is there,

17

actually, but we would have known that anyway.

18

Q. Would that have provided

19

a different explanation from the one that you might have arrived at before seeing --

20

A. Yes, I think so.

21

Q. In what respect?

22

A. I think that would confirm

23

that the amount of blood going through that shunt

24

was extremely small, so the hypoxia might have

25





RE10

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triggered, in a patient that had arrhythmia, a more important disturbance.

Q. Anything else in the autopsy report that provided you with information --

A. The banding necrosis just strengthens the question of whether or not the arrhythmia might have been related to muscle damage.

Q. When this information became available, what was your understanding of what that finding involved?

A. The finding of the muscle banding?

Q. Yes.

A. That would imply damage to muscle which caused the arrhythmia.

Q. Without knowing the extent of the damage, it would be very difficult to --

A. And to a portion of the septum. It would not have to be very much.

Q. It would be hard to include it as a causal development in this whole thing, unless you had rather more information than appears from this, would it not?

A. We have clinical information that is unusual in that this baby, who had a





EE11

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2

tetralogy malformation, was having arrhythmia --

3

Q. Yes.

4

A. -- from the time it

5

arrived, and that is an unusual finding in tetralogy of  
Fallot with pulmatresia. We know, in patients who

6

die with tetralogy of Fallot after surgery, in infancy,

7

there is damage of a type to myocardium. The

8

exact cause of this is uncertain but it is thought to

9

be some reduction in blood supply to the superficial

10

layers of the muscle inside the right ventricle, and

11

it has been postulated by others that this type of

12

condition in certain babies with tetralogy of Fallot

13

may be responsible for the mortality after  
surgery.

14

Now, that is as far as one can go.

15

We cannot be absolutely sure which effect predominated

16

here, but my view is that there are a number of

17

factors operating, each of which might have, on its

18

own or together, created the situation that arose  
here.

19

Q. Dr. Rowe, you are, I must

20

say, a physician who chooses his words with some care.

21

I notice you said it is known that damage of a type

22

to the myocardium septum can occur, and you have

23

described the situations in which it is known that

24

25







ANGUS, STONEHOUSE & CO. LTD  
TORONTO, ONTARIO

Rowe  
dr.ex. (Lamek)

2484

1  
EE12 2 damage of a type can occur.

3 Is it damage of a type that  
4 appears to be recorded here?

5 A. Yes.

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Q. So having seen the preliminary autopsy report, hearing what Dr. Freedom had to say about the gross pathology, because I take it he had the information, can you tell me then if you are satisfied that the death and time and manner of the death was consistent with that enhanced picture of the anatomical condition and clinical condition of this child?

A. Yes.

Q. I take it too that once again the terminal events and their onset and course and pace are similarly consistent with digoxin intoxication?

A. Yes.

Q. Did any other cardiologists or Cardiology Fellow raise the question of some cause of death of this child, other than attributing it to its clinical condition as known from the chart and autopsy?

A. I don't believe so.

Q. We know that someone has raised that question at a later stage, a pathologist, and I am focusing, you are quite right in believing I am focusing on the period December-January of 1981.

MR. LAMEK: Mr. Commissioner, I





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would expect even if you want to take a short break to be able to deal with one more child this afternoon and still finish at about the normal time and that will leave me two, I think, to deal with, no, I am sorry, three and I am confident I can do those by lunch time tomorrow if that is agreeable.

THE COMMISSIONER: Yes, all right.  
Let us take 15 minutes.

---Short recess at 3:45 p.m.

---Upon resuming at 4:10 p.m.

THE COMMISSIONER: Yes, Mr. Lamek.

MR. LAMEK: Thank you, sir.

Q. Dr. Rowe, we have dealt with a number of these charts today and can we come now to that of D'Arcy MacDonald, please.

D'Arcy MacDonald died at 4:30 in the morning on December 13th, 1980. He was five months old and he had been in the Hospital for Sick Children for less than 24 hours and he was transferred there in the afternoon of December the 12th from St. Joseph's Hospital in Hamilton, was he not?

A. Yes.

Q. Once again could you tell us whether the diagram up on the easel is a reasonably





FF3

1  
2 accurate representation of the anatomy of that  
3 child's heart?

4 A. Yes, it is.

5 MR. LAMEK: May that be the next  
6 exhibit please, Mr. Commissioner.

7 ---EXHIBIT NO. 87: Heart Diagram of D'Arcy  
8 MacDonald.

9 MR. LAMEK: Q. Would you please,  
10 Doctor, explain the anomalies or defects in that  
11 heart for us?

12 A. D'Arcy MacDonald was a boy  
13 who had Down's Syndrome and that is associated  
14 very frequently with congenital abnormalities of the  
15 heart formation. In his particular case the major  
16 lesion was a large ventricular septal defect.

17 He had in addition an atrial  
18 communication which was of moderate size, and the  
19 combined effect of those two conditions, since all  
20 the rest of the anatomy was normal, with one possible  
21 minor exception, the major effect that blood flowed  
22 from the left side of the chambers through these  
23 defects into the right side. The consequence of  
24 that is that the right side enlarged and the  
25 pulmonary artery became big and there was mixing of  
pink and blue blood in this top receiving chamber,







1  
2 the right atrium, and an overloaded circulation to  
3 the lung. So vastly more blood went out to the  
4 lungs than actually got out into the aorta and the  
5 rest of the systemic circuit because of the fact  
6 that there was this constant watershed of blood  
7 going through the defects.

8 The anomaly that is listed here is  
9 a representation of what is known as an accessory  
10 papillary muscle. The papillary muscle is normally  
11 only two in number and they are attached by these  
12 little strings that go all the way up to the leaflets  
13 of the atrial ventricular valves, or in this case  
14 the mitral valves and on the other side would be  
15 the tricuspid valve. This was an additional bar  
16 of muscle of that sort that occurred. So there  
17 were three I believe in the left ventricle instead  
18 of two. But just whether that had any impact on  
19 anything I think is doubtful.

18 Q. Dr. Rowe, you have referred  
19 to Down's Syndrome, what is Down's Syndrome and what  
20 is its significance so far as the cause of this  
21 child is concerned?

22 A. Down's Syndrome is a  
23 chromosome abnormality in which there is an extra  
24 chromosome at a specific point in the band of the  
25





Rowe, dr.ex.  
(Lamek)

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3 chromosomes and this defect gives rise to a child  
4 who has characteristic facial appearances and other  
5 defects, including mental retardation. The breathing  
6 apparatus of this group is subjected to more stress  
7 than the normal individual because of the fact  
8 that they tend to have narrow upper air ways, and  
9 that means that breathing tends to be difficult.  
10 They have large tongues, and they are subject to  
11 more respiratory problems than others and because  
12 of the fact that their muscle tone is poor they  
13 don't have good chest muscle performance. That  
14 means that this group is more susceptible to  
15 complicated features of congenital heart disease  
16 because they have a combination of lung and heart  
17 difficulties.

18 Q. Now, this child had been  
19 in the hospital, St. Joseph's in Hamilton, from  
20 December the 6th, and I am referring again to the  
21 summary of his history and of course to the  
22 discharge note, the death note on page 45 of the  
23 record. He had been treated there as you said for  
24 a respiratory infection and for congestive heart  
25 failure. A heart murmur had been discovered shortly  
after birth, and he was treated in St. Joseph's  
with antibiotics Ampicillin, and with digoxin and





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3 diuretics presumably for the heart failure.

4                   Apparently the heart failure did not  
5 resolve or come under control. It was also suspected  
6 was it not that the child had pneumonia?

7                   A.           Yes, it was.

8                   Q.           He was transferred to the  
9 Hospital for Sick Children on December the 12th.

10                   On arrival at your Hospital the  
11 chest was x-rayed, there was an electrocardiogram  
12 and two dimension echocardiograms carried out.  
13 The findings there was that there was an enlarged  
14 heart and the defects that you have described along  
15 with some ventricular hypotrophy, right ventricular  
16 hypotrophy.

17                   Do I correctly summarize his history  
18 and the findings upon his arrival at your Hospital,  
19 Doctor?

20                   A.           Yes.    The only thing I would  
21 add to that description of the comments in that  
22 second paragraph about the patchy densities in the  
23 chest x-ray which would be in keeping with the  
24 suggestion from the physicians in Hamilton that  
25 the baby might have pneumonia as well as heart  
failure.

                  Q.           Thank you. The course of





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digoxin treatment started in Hospital and the  
digitalizing doses had been administered there, had  
they not?

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A. No.

6

7

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Q. And the maintenance dose  
from which he was being managed was continued at  
the Hospital for Sick Children?

9

A. Yes.

10

11

12

13

Q. Now, the evening of his  
admission his breathing was fast than at the time  
he had been admitted in the afternoon, around mid-  
day. Around midnight it was noticed that his heart  
rate was variable and a resident was called.

14

15

THE COMMISSIONER: There seems to be  
a sex problem, is this a boy or a girl?

16

17

MR. LAMEK: D'Arcy I would have  
thought was a boy, he is referred to as a five-month  
old boy and he was referred from St. Joseph's.

18

19

THE COMMISSIONER: Well, I have  
seen "her" several times in some of the reports.

20

21

22

MR. LAMEK: I think we saw that in  
the case of Alan Perreault as well, did we not and  
Dion Shrum?

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24

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THE WITNESS: Yes, it is a common  
disorder.







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THE COMMISSIONER: Is this a boy?

MR. LAMEK: Well, looking at a different part of the anatomy and so you get confused and forgetful, Mr. Commissioner.

THE COMMISSIONER: I am not sure, what does page ---

MR. LAMEK: Page 45, the opening sentence of the discharge report is "This five-month old boy".

THE COMMISSIONER: Yes, I must say this does say male. However, you will find there are all sorts of references to "her".

THE WITNESS: The place that you can most usually rely on the sex is from the admitting office and that would be on the face sheet of the record if you can find that.

MR. LAMEK: Q. Is that the admitting discharge sheet?

A. Yes.

THE COMMISSIONER: The only thing about it is, if you look on page 5 "girl".

MR. LAMEK: On page 48, Mr. Commissioner, guided by Dr. Rowe, I found the admitting discharge sheet and in the top right hand corner it gives the birth date and sex which is





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FF9

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totally proclaimed to be M.

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THE COMMISSIONER: Right, I will  
accept that.

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MR. LAMEK: Q. I don't whether  
Dr. Rowe is prepared to vouch for the admitting  
office?

8

A. Oh, yes.

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A. Yes.

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Q. Now the whole thing is a  
very rapid course, the baby is in the Hospital only  
a very short time, about 12 hours. Are there any  
particular matters in the record, Doctor, which you  
consider to be significant in our consideration of  
why this child died, when and in the manner that he  
did?





BMB. jc  
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A. I think the most important issue is, one of a high probability, is that he had pneumonia, as judged by the chest X-ray and at least the suspicion of that, apparently, and the fact that at, was it 5 o'clock, I have a note somewhere about 5 o'clock, he started to have a lot of subcostal noisy respiration, subcostal breathing 57/74. I can't see where I had that, I looked before at that.

Q. Doctor, in that regard, may I refer you to the autopsy report. Would you expect to find some finding on autopsy if indeed this child had pneumonia?

A. If he had pneumonia, yes, he would indeed.

Q. Page 40.

A. Yes.

Q. On page 42, and I confess I do not know whether this be the preliminary or final autopsy report.

THE COMMISSIONER: Is this final on page 40, is that not it?

MR. LAMEK: It does on page 40, Mr. Commissioner, but then page 42 appears to be out of order. Whether it is out of order and should be immediately following 40 or whether it is out of order





GG.2

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and should be following page 42, I know not; 40  
being the final and 42 being the preliminary report.

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But perhaps we should look at both  
41 and 40 - well, 42, Doctor, the pathological discussion.

5

6

A. Yes.

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Q. Toward the end of the paragraph,  
that reports that a chest X-ray had shown  
a cardiomegaly with an abnormal configuration  
consistent with congenital heart disease and prominent  
pulmonary vasculature consistent with a left/right  
shunt. No areas of pneumonic consolidation was seen.  
Is that of any assistance in the question whether  
there was pneumonia here?

13

14

15

16

17

A. Well, I think that may  
have been in the radiologist report but there is a  
comment I believe from others. I can't remember where  
that was. I can't remember where I saw that but there  
is a comment somewhere written I believe ...

18

19

20

MR. STRATHY: I don't know whether  
this is correct, but would it be on page 40, Item  
No. 3, under Anatomical Diagnoses?

21

22

MR. LAMEK: Viral pneumonitis, is  
that of any help, Doctor? Thank you, Mr. Strathy.

23

24

25

THE WITNESS: Oh, I thought you were  
talking about clinical X-ray.







GG.3

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Q. No, I thought it was believed  
that - it was suspected that the child had pneumonia?

3

4

A. Yes, I think that was because  
of the history.

5

6

Q. Yes. Was there any confirmation  
of that on autopsy?

7

A. Yes.

8

Q. Where do I find that?

9

A. Well, it is in the Preliminary  
Report. It says under Anatomical Diagnoses:

10

11

"Congestion in the lungs query  
bronchial pneumonia."

12

13

Q. Forgive me, does that seem to  
be saying any more than the physicians had said during  
the life of this child, "Query, does this child have  
pneumonia?"

14

15

16

A. No, it doesn't, other than at  
least there is some suspicion in the pathologist's  
mind there is pneumonia.

17

18

19

Q. As there had been in the  
clinician's mind?

20

A. Yes.

21

22

Q. Now, you referred then to the  
suspected pneumonia. Is there anything else that is  
of particular significance that should be borne in

23

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GG.4

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mind when considering the death of this child?

3

A. I think just severe failure,

4

not responding well to medication and continuing

5

obvious signs of failure with a suspicion of pneumonia.

6

Q. Doctor, was this child, do

7

you consider that this child was manifesting any of

8

the symptoms of digoxin toxicity? I ask you that

9

question because the possibility is expressly

10

mentioned three times in this very slender chart. I

11

refer you to page 31 first.

12

A. Yes.

13

Q. St. Joseph's Hospital, the

14

question had been raised, is it dehydration, hypo-

15

kalemia, is it digoxin toxicity, and it is proposed

16

to withhold digoxin. It occurred to someone at that

17

stage, before he reached you, that there may be some

18

question of toxicity with digoxin?

19

A. Yes.

20

Q. Are you able to discern from

21

that not very good copy, the page from the

22

St. Joseph's Hospital records, what had given rise to

23

that question, Doctor?

24

A. It may be the -- no, I thought

25

that was vomited, but it was urinated, but I can't

see anything ... maybe the heart rate of 90 to 100,

that seems to be underlined.





GG.5

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Q. Yes, the top of the page.

3

A. That might have raised the

4

question I suppose.

5

Q. Is that a relatively slow rate

6

for an infant?

7

A. Someone who is having pneumonia

8

you would have expected a little faster than that I

9

suppose. So, it's not a very strong point but it is

10

certainly a point that might be reasonably considered

11

as an effect.

12

Q. Well, could I refer you next

13

then to page 58 which is a note from the Hospital

14

for Sick Children. The note of the residents on call

15

in the middle of the page.

16

A. Yes.

17

"Called at 0335 ... "

18

what's that, something pallor and baby not looking

19

right?

20

A. Yes.

21

Q. Vital signs given on the phone,

22

heart rate 160, respiration 80, blood pressure 80,

23

arrive on ward and so on. He reports what he found

24

there. Baby pale and crying, chest very noisy,

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GG.6

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heartbeats heard but regularity not assessed since the child immediately coughed and choked on some mucus secretions. Ordered the child to be suctioned and turned baby on side waiting for suction tube - suction performed in mouth - child became limp, heart stopped, although - what's that - monitor, still indicating 160 to the minute.

A. For a few seconds.

Q. For a few seconds. Resuscitation started, and I can't read that, and 25 called, Dr. Fowler notified, parents notified.

Impression, and there seems to be four explanations that are being canvassed by the resident for all of this: vagal reflex, arrhythmias, digoxin toxicity, and poor conduction system, something.

A. Associated with heart defect.

Q. Associated with heart defect, thank you. That the resident who was present at the time of the resuscitation effort, in canvassing the possibilities that occurred to him, has explanations for this event, included among them the possibility of digoxin toxicity.







BMera  
GG2-1

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A. Yes.

3

Q. Does that seem to be fair?

4

A. Yes.

5

Q. Indeed, Doctor, isn't it

6

fair that all four of the possibilities that he  
canvasses may not indeed be four; they may all be

7

one, may they not? Vagal reflex, I take it he is

8

talking about some reflex action of what, the vagus

9

nerve?

10

A. Yes. That is induced by

11

the choking and so on.

12

Q. Yes. But is not digoxin

13

also known to have an effect on heart rate through the  
vegal nerve?

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A. Yes.

15

Q. Arrhythmias, aren't

16

arrhythmias a symptom of digoxin toxicity?

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A. Yes.

18

Q. And digoxin does, at

19

toxic levels, affect the conduction system, does it  
not?

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A. Yes.

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Q. And therefore is it fair

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to say these may not be four different possibilities

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but different aspects of the same single possibility?

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Q. And, indeed, if his speculation or suggestion of digoxin toxicity is right, that may itself explain vagal reflex, the arrhythmias and the poor conduction, may it not?

A. Yes.

Q. Now, the final reference to the possibility of digoxin toxicity in this chart is at page 47, and it is in the Discharge Report. Perhaps it is fair to read from the bottom of page 46. This is a note apparently dictated on the 15th of December, bottom of page 2:

"The immediate cause of death could not be ascertained at the time of dictation. It could have been due to a vagal reflex elicited by the suction manoeuvre but arrhythmias or poor sinus function related to the heart defect are also to be considered. Digoxin toxicity was not suggested by the Admission ECG. Other possibilities, such as dehydration or acid-based imbalance or electrolyte imbalance, seem at this stage to have been unlikely in view of the child's clinical status





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and biochemical analysis."

It appears, does it not, that Dr. Halperin, in writing this Discharge Note, is going through the list of possibilities which had been canvassed by the Resident at the time of arrest?

A. Yes.

Q. And suggests that the admission ECG would not have suggested digoxin toxicity. That assumes, does it not, that toxicity arose prior to the child's arrival at the Hospital For Sick Children?

A. Yes.

Q. Yes. And if, indeed, the toxicity occurred as a result of something that happened after the child's arrival, then the observation as to the tracings on the admission ECG would not have a bearing, would they?

A. No.

Q. An autopsy was performed on this child, was it not?

A. Yes.

Q. And the final report is found at page 40, and we have already looked at it. It does not appear to express there an opinion as to the cause of death, does it? There is no opinion





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expressed in the Autopsy Report as to the cause of death, is there?

A. I don't see any opinion.

Q. No. Well, there is a suggestion that I hear from behind me, a sort of caption line, Final Autopsy Report, Down's Syndrome, viral pneumonia.

Is that where the cause of death is normally stated if the pathologist feels able to identify one?

THE COMMISSIONER: I'm sorry, where is that, please?

MR. LAMEK: It is immediately below the printed part on the page, on page 40, Mr. Commissioner.

THE COMMISSIONER: Oh, yes, I see.

MR. LAMEK: In block capitals where cause of death normally is stated.

A. Yes. I think that is probably summarizing the main features that are put there. I don't think everything is placed there but the main features. I'm not sure whether that is always so or not. Again, I think Dr. Phillips is the only recourse.







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Q. We may have to wait for the pathologist to find out about that then.

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For the purposes of the meeting that was held on January 12th, 1981, Dr. Rowe, this death was classified as "unexpected".

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A. Yes.

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Q. Can you tell me what caused it to be placed in that category, as defined by you?

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A. Again he is a patient, although with major defects of the heart, defects that we would hope to have been able to bring the baby through and repair eventually, despite the severity of the heart failure, so that death was not inevitable in this patient and therefore he was put in that category. The questions that were to be addressed there were what possible additional things might have been done to avoid the course that eventually followed.

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19

Q. Yes. This child died, Doctor, when you were back at the Hospital?

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A. Yes.

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Q. At what stage did you review the chart and this child's course and the circumstances of his death?

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A. I would have heard about his





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3 death on the Monday, I suppose, I cannot remember  
4 exactly, but that would be the course of events.  
5 We would have discussed his death in more detail  
6 for the purposes of the review later in December.

7 Q. All right. In the course  
8 of any discussion or review that you conducted or  
9 were involved in did you find any reason to suspect  
10 that this child's death should be ascribed to  
11 anything other than his anatomical and clinical  
12 condition, as disclosed in the chart itself and  
13 the autopsy?

14 A. No.

15 Q. Did you not consider the  
16 possibility of digoxin intoxication?

17 A. No.

18 Q. Were you aware of the  
19 references to the possibility of digoxin intoxication  
20 in the chart?

21 A. I cannot recall whether I was,  
22 but the opinion of the cardiologist involved was  
23 clearly that he died of pneumonia and heart failure,  
24 and that sounded appropriate from my point of view.

25 Q. I take it, although I had  
not asked the question in this case, but I take it  
that once again the terminal events and the manner





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2 of their onset and their course are consistent with  
3 digoxin intoxication in the way that you have  
4 framed an answer to that question previously.

5 A. Yes.

6 MR. LAMEK: Dr. Rowe, thank you.

7 Mr. Commissioner, that leaves me  
8 with three charts to deal with. I think they can  
9 be dealt with comfortably tomorrow morning, if this  
10 is an appropriate time to break for today.

11 THE COMMISSIONER: Yes, all right,  
12 until 10 o'clock then tomorrow morning, and just  
13 to remind you, if we do manage to get away on  
14 tomorrow afternoon we will make up for that slothful-  
ness by coming back on Monday at 2 o'clock.

15 MR. LAMEK: Mr. Commissioner,  
16 before that is writ in stone, I understand from  
17 Mr. Ortved that Dr. Rowe does need time to prepare  
for the examination.

18 THE COMMISSIONER: And he may not  
19 be able to prepare by ---

20 MR. LAMEK: I understand he may have  
21 some difficulty in being ready for Monday afternoon.

22 THE COMMISSIONER: Can you give us  
23 a reasonable explanation that we will be finished  
24 by Thursday?  
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3 MR. LAMEK: If we start on Tuesday  
4 we will have all of three days and there are some  
5 14 or 15 files to do. I cannot give you my solemn  
6 undertaking but I think we will come very close.  
7 Even if we do not, we will have one or two to  
8 finish when we come back.

9 THE COMMISSIONER: That will not  
10 worry you nor the Doctor, but it may make it more  
11 difficult for the others to cross-examine, if there  
12 are one or two that we still have not done.

13 MR. LAMEK: I understand. It would  
14 be much more satisfactory if we could be assured  
15 that we would finish it. It may be, sir, I will  
16 suggest to you, that on Tuesday and Wednesday when  
17 we see the pace at which things are travelling that  
18 we sit a little later than 4:30.

19 THE COMMISSIONER: All right. Then  
20 I withdraw that last threat, but tomorrow at 10 o'clock.

21 MR. LAMEK: Thank you, sir.

22 ---Whereupon the hearing adjourned at 4:45 p.m. until  
23 Thursday, July 21st, 1983 at 10:00 a.m.  
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